The Mining Journal
AND ATMOSPHERIC RAILWAY GAZETTE,

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 598.—Vol. XVII. LONDON, SATURDAY, FEBRUARY 6, 1847. [Price 6d.

VALUABLE SPARE MINING MATERIALS FOR SALE.—TO BE SOLD, BY AUCTION, on TUESDAY, the 9th day of February next, at Eleven o'clock in the forenoon precisely, at PROVIDENCE MINES, near St. Ives, the following VALUABLE MINING MACHINERY AND MATERIALS—viz.: an excellent 30-inch cylinder PUMPING-ENGINE, with boiler, about 7 tons, for duty performed see Lean's Reporter, 1844 and 1845; also, a very superior steam whim engine, 13-inch cylinder, with boiler complete; a capstan and shears, 11-inch H piece and top-door, 9½-inch plunger-pole, stuffing-box and gland, 9-inch ditto, two 8-inch 8-feet door-pieces, one 6-inch 6-feet ditto, one 8-inch 4-feet bucket door-piece, 30 fathoms of 10 and 9-inch pumps, 40 fathoms 9-inch ditto, 28 fathoms of 8-inch ditto, 8 fathoms of 7-inch ditto, two 9-inch, one 8-inch, two 6-inch, and one 5-inch windbores, plates and pins, one fend-off and a V bob, a quantity of bolts, staples, and glands, 30 fathoms bucket rods, 1-inch and 1¼-inch iron, seven 3-feet rod shieves, two pairs of taper rod plates, 1-inch thick in the middle, and two dozen shaft rollers. A WATER PRESSURE ENGINE, 8-inch cylinder, with nozzles, on the most approved plan, a quantity of old, cast and wrought iron, and other spare materials.—For further particulars, apply to Capt. Penberthy, at the mines; Messrs. Biggs and Son, Penzance; or Mr. Bellringer, auctioneer, Penzance.

Dated Jan. 25, 1847. 1

VALUABLE MINING MATERIALS AND STEAM-ENGINE FOR SALE.—TO BE SOLD, BY AUCTION, by F. A. DAVIS, on Tuesday, the 16th day of February, 1847, at Eleven o'clock in the forenoon, at BOWDEN HILL MINE, in the parish of BRENTOR, about four miles from Tavistock, Devon, the

UNDERMENTIONED

MATERIALS OF THE SAID MINE, COMPRISING—

11 9-feet 8-inch pumps	2 Travelling bobs
2 9-feet 6-inch ditto	Carpenter's [illegible]
2 9-feet 11-inch ditto	1 Hand pump, 42 fathoms long, 5-inch working
1 9-feet 12-inch ditto	4 Pairs cast-iron bearing blocks
16 9-feet 9-inch ditto	3 Cog-wheels
1 6-feet 6-inch ditto	3 Tram waggons
1 6-feet 8-inch ditto	Quantity of hemp, white yarn, and sump gaskit
4 6-feet 12-inch ditto	2 Dozen tin powder cans
1 6-feet 9-inch ditto	1 9-feet 11-inch wood pump
1 4-feet 6-inch ditto	1 9-feet 9-inch ditto doorpiece
2 3-feet 8-inch ditto	1 3-feet 10-inch ditto matching-piece
1 3-feet 11-inch ditto	8 Wood kibbles
1 10-feet 7-inch working barrel	An excellent turning lathe, with fly-wheel and tools, complete (quite new)
1 10-feet 8-inch ditto	A quantity of iron rings
1 9-feet 11-inch ditto	8 Truckles for whim chain
1 9-feet 5-inch ditto	1 Air-machine
2 6-feet 6-inch windbores	Part of ditto
1 6-feet 11-inch ditto	1 Gig, adapted for shaft work
1 6-feet 12-inch ditto	Lot of round and square flat-rod iron
1 5-feet 9-inch ditto	4 Sheave pulleys
4 5-feet 9-inch doorpiece	Capstan and whim-rope
1 3-feet 11-inch ditto	1 Pair bevils
1 5-feet 12-inch ditto	2 Bevil wheels
1 9ft. 6in. 11-inch matching-piece	2 Small ditto, with shafts
1 1-foot 8½-inch ditto	Several cast-iron steam and air pipes
1 1-foot 9-inch ditto	1 Bob stand
1 9ft. 3in. 9-inch ditto	2 Dressing screens
1 5-feet 10-inch H-piece	A quantity of brasses
1 3-feet 11-inch ditto	Cross-cut saw
1 Plunger pole, with cylinder, stuffing-box, and glands	Hand ditto
1 Pair shears, with pulleys, complete	Weighing crane
1 Capstan	2 Beams
About 90 fms. capstan rope, in good condition	Iron scale
A quantity of flat-rod pulleys	3 Sifting grates
4 Whim ditto	Smith's bellows, anvil, and vice
About 10 tons new iron (various sizes)	1 Hand grinder
1 A cage of drawing machine, with frame and stands	Lot of old timber
150 Fathoms ¾-inch whim chain	A quantity of useful iron for mining and other purposes, consisting of
Several tons of old wrought-iron	Rod plates, bolts, bars, yokes, staples, and glands, spindles, clacks, seating, and buckets
Ditto cast-iron	Also, a variety of miners' and smiths' tools
2 Whim kibbles	About 2 cwts. nails, of different sizes
2 3-inch lead pipes	A small quantity of good leather
260 Feet of launders	Dog's house
240 Feet 7-inch wood-rods, with plates, &c.	
2 Connecting bobs	

ALSO, A VERY SUPERIOR PUMPING-ENGINE,

21-inch cylinder, 5-feet stroke in piston, with a Sims's double-combined cylinder steam-machine, whim, and grinding apparatus attached—worked by one boiler, of about 8 tons weight, in excellent order.

The engines are in exceedingly good condition, substantially and well fitted, and will be put up in one or more lots, as may be determined on at the time of sale.

The whole may be viewed by application to Captain Hampton, on the mine; and any further particulars obtained of him, or of the auctioneer, at his office, in Tavistock.

West-street, Tavistock, Jan. 25, 1847.

EXCELLENT SPARE MINING MATERIALS FOR SALE.

MR. BELLRINGER will SELL, BY AUCTION, on Tuesday, the 23d day of February inst., at Eleven o'clock in the morning, at BALLEWIDDEN MINE, ST. JUST, in Penwith, the following

SPARE MINING MACHINERY AND MATERIALS—viz.: 3

TWO DRAFT ENGINES, each of 24 inches cylinder.
PUMPS, of various sizes, from 5 to 9 inches diameter, 6 and 9 feet long.
WINDBORES, poles, pole cases, H-pieces, flat and round rods, and numerous other valuable materials.—[*full particulars will be published next week.*]

Every information will be afforded on application to the agents, on the mine; Mr. R. Davy, purser; or the auctioneer, at Penzance.

Dated Feb. 1, 1847.

STONE-COAL CULM COLLIERY.—TO BE LET, all the COAL and CULM under 300 acres, more or less, situated within 300 yards of the Swansea Canal, half a mile of the intended Swansea Vale Railway, and 10 miles from the port of Swansea. There are two veins now open, with a capital road, and workable by level.

Application to be made to Mr. J. Jackson Price, solicitor; or Mr. T. S. Strick, Swansea. The tolls on the Swansea Canal have been reduced from 1d. to ¾d. per ton per mile. 4

STONE-COAL CULM COLLIERY.—TO BE LET, all the COAL, CULM, IRONSTONE, and FIRE-CLAY, under 300 acres, more or less, situated within one mile of the Swansea Canal, 1¼ mile of the intended Swansea Vale Railway, and 10 miles from the port of Swansea. There are several veins now opened, with a capital road, and workable by level.

Applications to be made to Mr. J. Jackson Price, solicitor; or Mr. T. S. Strick, Swansea. 5

STEAM-PACKET COAL.—TO BE LET, about TWO HUNDRED ACRES of STEAM COAL, situated within 50 yards of the Swansea Canal, half a mile of the Swansea Vale Railway, and six miles from the shipping port of Swansea.—Application to be made to Mr. T. S. Strick, Swansea. 6

TO CAPITALISTS.—CARMARTHENSHIRE AND GLAMORGANSHIRE, SOUTH WALES.—The AGENT of an extensive estate, calls the attention of Ironmasters, Colliers, Manufacturers, Farmers, and Capitalists in general, to this announcement—he is prepared to ENTER into ARRANGEMENTS with respectable PARTIES for the LEASING, on long terms, of VARIOUS DESCRIPTIONS of PROPERTY, now the object of public attention—Anthracite and Bituminous Coal and Culm, Ironstone, Limestone, Marble, Flag, and other quarries—Fire Clay and Brick Earth, Land for erecting at, and near, a flourishing and fast-rising commercial town), seaport, and floating dock, manufactories, shipbuilding yards, wharfs, store and dwelling-houses; and, in the coal and iron districts, SITES for WORKS, joining a railroad and canal, leading, by their main trunks and branches, to three seaports—water-power is almost general.—SITUATIONS for RURAL and MARINE RESIDENCES in the most beautiful parts of the country, commanding views of Swansea and Carmarthen Bays, and the Black Mountain, with good roads, cheap markets, and daily communication with Bristol, Gloucester, and the metropolis. 7

The estate is situated in 24 parishes, offering, in every variety of soil and scenery, numerous objects of interest to the geologist, the sportsman, and the admirer of the picturesque. As an inducement to capitalists to embark in such agricultural improvements, as draining, planting, erections of proper homesteads, &c., which now so deservedly occupy public attention, LEASES of NINETY-NINE YEARS will be granted for these purposes. Cheap food, labour, fuel, and raw material of every description, will give the manufacturer an advantage over every other part of Great Britain; while the large and still increasing trade in coal affords an intercourse with all parts of the world, for importing the produce of their localities at cheap back freights, and for forwarding to their destination the manufactured articles. This more particularly applies to those undertakings where the consumption of coal forms a principal ingredient.

The South Wales Railway will pass through the town, touching the three seaports, and going over a large proportion of the estate on the sea-coast; while the contemplated inland railways will bring the collieries, ironstone, limestone, and stone quarries, within an easy distance of the agricultural counties of Hereford and Worcester, and the great chain of railway communication, connecting Birmingham, Liverpool, Manchester, and all the important manufacturing districts of England.

For further particulars apply to P. L. Brown, solicitor, Llanelly; John Williams, solicitor, 1, Verulam-buildings, Gray's Inn, London; Messrs. Brooks and Green, estate agents, 93, Old Bond-street, London; Mr. John Farram, estate agent, 29, Seel's-street, Liverpool; Alfred Henderson, solicitor, Albion Chambers, Bristol; Messrs. Hewshid and Harrison, solicitors, Leeds; and Mr. G. H. Boles, 66, Camden-street, Dublin.

STEAM-ENGINES.—TO BE SOLD, THREE excellent DISC ENGINES.—ONE FIVE-HORSE.
ONE TWELVE-HORSE.
ONE TWENTY-HORSE.

Apply to Mr. Joseph Warden, Jun.

Old Church Works, Jamaica row, Birmingham, Jan. 29, 1847. 8

EXTENSIVE MINERAL PROPERTY.—The AGENT of a MINERAL ESTATE, of many thousand acres, on which have been discovered several RICH LODES OF COPPER ORE, of great promise, one of which has been very lucratively worked, is prepared to TREAT with COMPANIES, or PARTIES of respectability, for the GRANTING of SETTS, or DISTRICTS. The mineral indications are of great extent, and the position of the lodes is of the most favourable description. 9

The property is situated in the north of Devon: a proposed North Devon Railway will pass through the estate, and will bring the produce within one hour of sea carriage.

An unworked lime rock is on the estate, and may be leased either separately or otherwise, as may be agreed on.

Further particulars may be obtained, by pre-paid letters, addressed to Mr. W. U. Tripp, solicitor, Tiverton, Devon—Feb. 1, 1847.

IBERIAN SILVER-LEAD ORE COMPANY—Established for SMELTING, on an extensive scale, the rich SILVER-LEAD ORES of ALMAGRERA, in SPAIN, where the company have two large establishments, about to be worked, with powerful machinery, and on a new refining process. 10

The large profits to be realised by the company, enable the directors to guarantee a minimum dividend of 20 per cent., payable in half-yearly dividends of 10 per cent. each, upon 12,000 reserved shares, which are now offered to the public at 12s. 6d. per share, free from further calls; the guarantee will last as long as any portion of the 12s. 6d. per share remains to be repaid to the shareholders, who will thus soon find themselves proprietors of the said shares, with a reimbursed capital.

Applications for prospectuses and shares at the company's temporary offices, 6, Bank Chambers; and at Messrs. L. M. Simon and Son, stock and sharebrokers, 7, Warnford-court, Throgmorton-street.

Bankers of the Company—Messrs. Sapte, Banbury, Muspratt, and Co., 77, Lombard-street.

OPTIONAL LOAN OF SIX THOUSAND POUNDS WANTED, ON MORTGAGE, at TEN PER CENT., secured on invaluable MINES in ENGLAND, to be expended in improving the property. It may be an optional loan, at the above rate of interest, for a certain fixed period; or may merge into a share of the undertaking before the time expires. The property is unincumbered, and as valuable as any in England, and the interest will be paid half-yearly.—Apply to Mr. Henry English, either personally or by letter, who will afford more detailed information. 11

25, Fleet-street, London, Feb. 2, 1847.

ASTURIAN MINING COMPANY.—Notice is hereby given, that all SHARES on which the CALL, due on the 31st December, is NOT PAID, are LIABLE to FORFEITURE, and that interest will be charged on all payments after the above-mentioned date. A list of the shares upon which the call has not been paid, will be laid before the shareholders, who may attend the meeting called on the 12th inst., at Twelve o'clock. By order of the board, 12

9, Austinfriars, Feb. 5, 1847. K. MACKENZIE, Secretary.

BEDFORD UNITED MINING COMPANY.—The directors of the BEDFORD UNITED MINING COMPANY hereby give Notice, that the ANNUAL GENERAL MEETING of the shareholders will be HELD at the office, 51, Old Broad-street, on Thursday, the 25th inst., at Twelve o'clock precisely, for the purposes required by the regulations endorsed on the scrip certificates. 13

London, Feb. 6, 1847.

GREAT SOUTH TOLGUS COPPER AND TIN MINING COMPANY.—Notice is hereby given, that the nomination of the provisional directors has taken place, and that the FIRST GENERAL MEETING of the proprietors will be HELD at the offices of the company, 23, Castle-street, Liverpool, on Monday, the 8th day of February next, at One o'clock in the afternoon, for the purpose of confirming, or otherwise, the nomination of the directors; and for the transaction of such general business as may be necessary to the commencement of active operations. The directors being in treaty for a steam-engine, all shareholders who have not yet paid their deposits are requested immediately to do so.

ROBERT TAYLOR,
FREDK. A. TAMPLIN, } Provisional
GEORGE WOOD, } directors.
JOHN PAINTER & CO., Secretaries pro tem. 14

Dated Company's Offices, 23, Castle-street, Liverpool, Jan. 21, 1847.

IMPERIAL BRAZILIAN MINING ASSOCIATION, Winchester-house, Old Broad-street, London, Jan. 29, 1847.—Notice is hereby given, that a SPECIAL GENERAL MEETING of the proprietors of shares in this association will be HELD at the London Tavern, Bishopsgate-street, on Thursday, the 25th day of February next, to receive a report from the directors respecting the purchase of a new mining property in Brazil.—The chair will be taken at Two o'clock precisely.

GEORGE THOMAS, Acting Director. 15

TAMAR SILVER-LEAD MINING COMPANY. SMELTING DEPARTMENT. 16

Notice is hereby given, that a SECOND PAYMENT of TWENTY-FIVE PER CENT. of the subscribed capital of this company, and a SECOND PAYMENT of TWENTY-FIVE PER CENT. of the bonus, will be MADE on Saturday, the 30th inst., and following Wednesdays, between the hours of Twelve and Four.

The interest of 5 per cent. on the above 25 per cent. subscribed capital will cease on the 30th inst.—The debentures must be left at the office of the company three clear days, to be marked.—44, Finsbury-square, Jan. 21, 1847.

WHEAL BENNY MINING COMPANY.—At an Adjourned Meeting of the adventurers, held at the offices of James Crofts, Esq., 4, King-street, Cheapside, London, pursuant to notice, on Tuesday, the 2d inst.,

CHARLES HILL, Esq., in the chair. 17

The circular convening the meeting, the several regulations for the management of the affairs of the company, and the balance-sheet, having been read—

Resolved unanimously,—That Messrs. Charles Hill, Alderman Farncomb, Peter Davey, John Addis, and J. C. Fox, Esqs., be elected members of the finance committee.

Resolved,—That James Crofts, Esq., be elected secretary.

Resolved,—That Samuel Benny Serjeant, Esq., of Callington, be continued as purser.

Resolved,—That Capt. T. M. Penaluna be continued as an agent, and that Capt. J. Tabb be elected superintending agent, of the mine.

Resolved,—That a call of £1 per 256th share be made payable, on or before the 2d of March next.

Resolved,—That a special general meeting of the adventurers be held at this office on the 16th day of February inst., at Two o'clock in the afternoon, for the purpose of adopting rules for the government of the company.

Resolved,—That Captains Tabb and Penaluna be instructed immediately to report as to the best mode of working the mine, and advise the committee thereon.

Resolved,—That all parties in arrear of calls be requested to pay the same immediately; and, if not paid within 14 days after notice, the rule of forfeiture be enforced.

CHARLES HILL, Chairman.

The chairman having vacated the chair, the cordial thanks of the meeting were voted to that gentleman for his able services. JAMES CROFTS, Secretary.

4, King-street, Feb., 1847.

WHEAL MARY UNITED MINING COMPANY, In 1000 shares, of £10 each. 18

ON THE COST-BOOK PRINCIPLE.

The PROSPECTUSES may be obtained of the London secretary, Mr. W. Witcomb, 167, Fleet-street, London.

STEAM COAL—WITHOUT SMOKE, as per experiments made at her Majesty's Dockyard, Woolwich.

CAMERON'S COALBROOK STEAM COAL, AND SWANSEA AND LOUGHOR RAILWAY COMPANY.—(Completely Registered and Incorporated.) 19

OFFICES—2, MOORGATE-STREET, LONDON.

The directors are now prepared to supply steam ship companies, manufacturers, shippers, and others, with the company's steam coal, either at the company's wharf at Swansea, or in London. A statement, showing by comparative trial the superiority of this coal for steam purposes over every other, and a scale of prices, may be had on application at the company's offices here, or at their wharf at Swansea.—March 18, 1846.

TO ENGINEERS, RAILWAY CONTRACTORS, MINING AGENTS, IRONMASTERS, AND OTHERS REQUIRING FINE GREASE for MACHINERY and AXLES of every description.—JOSEPH PERCIVAL'S IMPROVED ANTI-FRICTION GREASE is—after trials on machinery and axles of every kind where constant friction is kept up—admitted to be the most useful, economical, and best preparation of the kind ever offered to the public. 20

References to scientific and practical men can be given, and testimonials shown of its great excellence.—Samples forwarded on application at the manufactory, Green-street, Wellington-street, Blackfriars-road, London.

OFFICE FOR PATENTS, 7, STAPLE INN, HOLBORN.

J. MURDOCH (successor and late assistant to Mr. Hebert)

Informs INVENTORS and PATENTEES, that, at his OFFICE, they can obtain REFERENCE TO A CLASSIFIED LIST OF PATENTS, (THE ONLY ONE EXTANT), which shows at one view all the Patents ever granted for any particular object, whereby they may save much trouble and expense, and procure information not otherwise obtainable. BRITISH and FOREIGN PATENTS OBTAINED, and USEFUL and ORNAMENTAL DESIGNS REGISTERED. 21

SPECIFICATIONS carefully prepared, and REPORTS of ENROLLED SPECIFICATIONS furnished on moderate terms.

FINISHED and WORKING DRAWINGS executed with accuracy and despatch.

TO AUSTRALIAN OR AMERICAN MINING COMPANIES.—The FRIENDS of a GENTLEMAN, who, for several years, has been PRACTICALLY ENGAGED in the SMELTING of COPPER ORES, in reverberatory furnaces, and who is now on the continent, for the purpose of perfecting himself in the several methods of reduction with charcoal, by the blast-furnace, are desirous of procuring AN ENGAGEMENT for him, with an AUSTRALIAN or AMERICAN COMPANY, either to form an establishment for the reduction of copper ores, or to superintend an establishment of the kind, for which he feels himself competent. 22

Applications, for further particulars, to be made (by letter) to Mr. E. J. Cole, Mining Offices, Winchester House, Broad-street.

RICHARD BOOT, ACCOUNTANT, MINE AND RAILWAY SHARE BROKER, COMMERCIAL AND GENERAL AGENT, having resided for many years in the most important mining district of the county, and possessing an extensive and respectable connection there, respectfully offers his services in the PURCHASE OR SALE OF SHARES in the tin and copper mines of Cornwall, or for the transaction of general business.—R. B. believes himself to be in a situation to obtain and furnish information on mines, or mining property, that may be depended upon; and will endeavour to execute any commissions that may be entrusted to him with zeal and fidelity. Unexceptional references given if required.—*REDRUTH*, 1st mo. 25, 1847. 23

MESSRS. R. CLARK & CO. beg to acquaint their friends and the public in general, that they have taken OFFICES as below, where they intend to carry on BUSINESS as STOCK, SHARE, and MINING AGENTS; relying with confidence upon the method adopted by them for conducting all business entrusted to their agency, Messrs. R. C. & Co. solicit a continuance of that support it will be, by strictest attention to all orders, their endeavour to deserve. 24

N.B.—Money advanced upon scrip and other securities.

3, Austinfriars, Broad-street, Oct. 17, 1846.

MINING PROPERTY.—CAPITALISTS who are disposed to INVEST in CORNISH and FOREIGN MINES, will find the present opportunity very favourable for so doing. From large sums having been lately diverted from such investments for railway speculations, standard mines are now selling at prices that will pay the purchaser 20 per cent. per annum for his outlay. There are also other mines that are on the eve of paying dividends, which can be recommended with confidence. 25

Applications to be made to Mr. JAMES HERRON, mining agent, No. 3, Adam's-court, Broad-street, London.

MESSRS. LINTHORNE, JONES, AND CO., STOCK, MINING, AND SHARE AGENTS,

**** Every information will be afforded as to the markets and prices of the above, by application (post-paid) at their offices, 26

49, *THREADNEEDLE-STREET, LONDON.*

MR. R. TREDINNICK, MINING AGENT AND DEALER IN EVERY DESCRIPTION OF SHARES. 27

THREE KING'S COURT, LOMBARD-STREET, LONDON.

WILLIAM H. SMITH, MINING SHARE AGENT, 10, *WARNFORD-COURT, THROGMORTON-STREET,* has SHARES FOR SALE in the following MINES—viz.: 28

WHEAL BLENCOWE,	WEST SHEPHERD,
WHEAL LOUISA,	EAST WHEAL FORTUNE,
WHEAL MARY PENTUAN,	VICTORIA TIN MINING COMPANY.

**** Every information will be afforded on application.

MINING OFFICES, 1, ST. MICHAEL'S-ALLEY, CORNHILL, LONDON.

WATSON AND CUELL, MINE AGENTS.—N.B.—STATISTICAL INFORMATION furnished (on application) to SHAREHOLDERS in MINES in Cornwall, Devon, Scotland, Ireland, Wales, and Spain. 29

THOMAS P. THOMAS, MINE AGENT, AND DEALER IN RAILWAY AND OTHER SHARES. 30

18, *THREADNEEDLE-STREET, LONDON.*

JAMES LANE, MINING SHAREBROKER, 31

75, *OLD BROAD-STREET, LONDON.*

JONATHAN DAVEY, MINE AGENT, SURVEYOR, AND SHAREBROKER, 32

MATTHEW-STREET, TAVISTOCK.

Mines surveyed, inspected, and reported on, at the shortest notice; plans, sections, and dialling performed, by day or contract.

MESSRS. J. PAINTER AND CO, SHAREBROKERS MINING AND GENERAL AGENTS, 33

25, *CASTLE-STREET, LIVERPOOL,*

AFFORD EVERY INFORMATION as to the STATE of the MARKETS, PRICES, upon application.

WILSON & FRASER, 2, WELLINGTON-BUILDINGS, LIVERPOOL, and 13, EXCHANGE-PLACE, GLASGOW, have always ON SALE, PIG-IRON, BAR-IRON, RAILWAY CHAIRS, and RAILWAY BARS. 34

PIG-IRON.—JAMES BANKS AND CO. have always FOR SALE SCOTCH PIG-IRON, deliverable, free on board, at the Broomielaw, Port-Dundas, Ardrossan, and in the Frith of Forth, at Charleston. 35

Glasgow, 21, Renfield-street.

UNITED STATES MINES.

COPPER ORE, from the best localities, as Grey, Black Oxide, and Sulphuret.
COBALT OXIDE, yielding from 5 to 80 per cent.
CHROME, yielding from 30 to 47 per cent.
MANGANESE, yielding from 75 to 90 per cent. 36
LEAD ORE, of the best quality.
ZINC, in form of Blende and Calamine.
Likewise, SOAP STONE, WHITE VITREOUS FELSPAR, BLACK LEAD, PURE WHITE LEAD, MICA, in small and large sheets.

THE ABOVE NATURAL PRODUCTIONS may be obtained in any quantity, and on the most reasonable terms, by applying to DR. LEWIS FEUCHTWANGER, New York City.

NOTICE TO THE MANAGERS OF MINING COMPANIES, SMELTING WORKS, &c.

Mr. MITCHELL (late Mitchell and Field) begs to announce, that ASSAYS and ANALYSES of all descriptions of ORES, MINERALS, and FURNACE PRODUCTS, are conducted at his LABORATORY, 23, HAWLEY-ROAD, KENTISH TOWN, to which direction all communications are to be addressed. 37

N.B.—Instruction in all branches of assaying and mineral analysis as usual.

THE PATENT SAFETY FUSE, FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the SAFEST, CHEAPEST, and most EXPEDITIOUS MODE of effecting this very hazardous operation. From many testimonies to its usefulness with which the manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c.:—"I am very glad to hear that my recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this." 38

Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Tuckingborne, Cornwall.

PATENT GALVANISED IRON AND WIRE ROPE WORKS, *MILLWALL, POPLAR.*

ANDREW SMITH begs to inform the Mining, Railway, and Shipping interests, that he has obtained a PATENT for an IMPROVED METHOD of GALVANISING IRON, producing a much superior article at a considerable saving in cost—the improved process for galvanising wire rope, adding only £10 per ton instead of £30, under the ordinary processes. The rope is extensively used in damp situations, for mining and railway purposes, and for ships' standing rigging.—Mr. J. S. Tregellas, Truro, agent for Cornwall. 39

PATENT FUEL COMPANY.—FOURTH CALL.—Notice is hereby given, that the directors have this day made a further CALL of TWO POUNDS per share, on each and every share in this company, PAYABLE at the company's bankers, Messrs. Glyn and Co., London, on or before the 25th day of Feb. next.—Dated this 29th day of January, 1847. WILLIAM NICHOLAS DE MATTOS, Sec. 40

15, St. Mary Axe, London.

STEAM TO INDIA VIA EGYPT, MALTA, ITALY, ALEXANDRIA, AND THE PENINSULAR PORTS.

PASSAGE TO BOMBAY, MADRAS, AND CALCUTTA.

The Peninsular and Oriental Steam Navigation Company BOOK PASSENGERS for CEYLON, MADRAS, and CALCUTTA direct, by steamers leaving Southampton on the 20th, and for Alexandria, *en route* to Bombay, on the 1st of every month.

A steamer from Southampton leaves the 1st and 20th of every month for Malta, where are steamers to Naples, Genoa, Civita Vecchia, three times a month.

STEAM TO CORUNNA, OPORTO, VIGO, LISBON, CADIZ, AND GIBRALTAR. 41

A steamer leaves Southampton on the 7th, 17th, and 27th of every month.

Apply at the Peninsular and Oriental Steam Navigation Company's offices, 31, St. Mary Axe, London, where only passages can be secured throughout.

The Royal West India steam-packet *Avon*, Capt. Norton, sailed on Tuesday from Southampton, for the West Indies, with the mails from the Islands, Gulf, and Mexico, taking out a valuable cargo, including 1,000 bottles of quicksilver, value 16,000*l.* sterling, and 65,200*l.* in gold coin.

42

INDIGESTION CURED AND WEAK STOMACHS STRENGTHENED BY HOLLOWAY'S PILLS, which are the finest stomachic and invigorating medicine ever known.—Even in very bad cases a few doses will wonderfully improve the tone and strength of the weakest stomach, and induce healthy digestion; and, as they never fail to promote an excellent appetite, those of weak and delicate habits are enabled to take such substantial food as is necessary to get up their strength. By means of this astonishing medicine, persons may be restored to a state of health and vigour they never anticipated. These pills may be taken at all times with the greatest freedom and safety, as they are purely a herbal preparation.—Sold by all druggists, and at Professor Holloway's establishment, No. 244, Strand, London.

NATIONAL LOAN FUND LIFE ASSURANCE SOCIETY.
26, *CORNHILL, LONDON.*
Capital £500,000.—Empowered by Act of Parliament.

This institution embraces important and substantial advantages with respect to Life Assurances and Deferred Annuities. The assured has, on all occasions, the power to borrow, without expense or forfeiture of the policy, two-thirds of the premiums paid (see table); also the option of selecting benefits, and the conversion of his interests to meet other conveniences of necessity.

Assurances for terms of years are granted on the lowest possible rates.

43

DIVISION OF PROFITS.

The remarkable success and increasing prosperity of the society has enabled the directors, at the last annual investigation, to declare a fourth bonus, varying from 35 to 85 per cent. on the premiums paid on each policy effected on the profit scale.

EXAMPLES.

Age	Sum.	Prem.	Year.	Bonus added.	Bonus in Cash.	Permanent reduction of Premium.	Assured may Borrow.
60	£1000	£0 3 4	1837	£217 15 1	£109 0 11	£16 0 4	£445 0 0
			1838	192 3 0	87 1 4	13 10 2	395 11 1
			1839	165 11 10	74 1 9	11 3 1	346 9 3
			1840	116 7 6	54 0 10	7 18 10	256 13 4
			1841	111 6 6	49 10 6	7 10 4	247 4 5

The division of profits is annual, and the next will be made in December of the present year. F. FERGUSON CAMROUX, Secretary.

NO BREWING UTENSILS REQUIRED.

PATENT CONCENTRATED MALT AND HOP EXTRACT
enables PRIVATE INDIVIDUALS to MAKE
PINE HOME-BREWED ALE, 44
WITHOUT EMPLOYING ANY BREWING UTENSILS.—It has only to be dissolved in hot water and fermented.—Sold, in jars, for medicinal and other purposes, at 1s. and 1s. 6d.; and in bottles for brewing 9 to 18 gallons and upwards of ale, at 6s. 6d. and 12s. 6d. each, by the

BRITISH NATIONAL MALT EXTRACT COMPANY,
7, NICHOLAS-LANE, LOMBARD-STREET; Petty, Wood, and Co., 53, Threadneedle-street; Wix and Sons, 22, Leadenhall-street; Batty and Co., 15, Finsbury-pavement; De Castro and Peach, 68, Piccadilly; Hockin and Co., 36, Duke-street, Manchester-square; and oilmen and grocers generally.

Also, just published, and may be had gratis,

NATIONAL BREWING: A GUIDE to the USE of CONCENTRATED MALT AND HOP EXTRACT, for BREWING and WINE MAKING; to which is added, MEDICAL OPINIONS relative to the virtues of malt and hops.

Copy of a Letter from "COLONEL HAWKER" (the well-known author on "GUNS AND SHOOTING")
Longparish House, near Whitchurch, Hants, Oct. 21, 1846.

SIR,—I cannot resist informing you of the extraordinary effect that I have experienced by taking only a few of your LOZENGES. I had a cough, for several weeks, that defied all that had been prescribed for me; and yet I got completely rid of it by taking about half a small box of your Lozenges, which I find are the only ones that relieve the cough without deranging the stomach or digestive organs.—I am, Sir, your humble servant,
To Mr. Keating, &c., 79, St. Paul's Churchyard. P. HAWKER.

KEATING'S COUGH LOZENGES are PATRONISED also by his Majesty the King of Prussia, his Majesty the King of Hanover, and most of the Nobility and Clergy of the United Kingdom, and are especially recommended by the Faculty.

45

RECENT TESTIMONIAL.

DEAR SIR,—Having been, for a considerable time during the winter, afflicted with a violent cough, particularly at lying down in bed, which continued for several hours incessantly, and after trying many medicines without the slightest effect, I was induced to try your Lozenges; and, by taking about half a box of them, in less than 24 hours, the cough entirely left me, and I have been perfectly free from it ever since.
9, Claremont-terrace, Pentonville, I am, dear Sir, yours, very respectfully,
Feb. 17, 1845. JAMES ELLIS,
Mr. KEATING. (Late proprietor of the Chapter Coffee-house, St Paul's.)

Prepared and sold in boxes, 1s. 1½d., and tins, 2s. 9d., 4s. 6d., and 10s. 6d. each, by T. Keating, chemist, &c., No. 79, St. Paul's Churchyard, London; and retail by all druggists and patent medicine venders in the kingdom.

N.B.—To prevent spurious imitations please to observe that the words "KEATING'S COUGH LOZENGES" are engraven on the Government stamp of each box.

NOTICE.—These Lozenges contain no opium, or any preparation of that drug.

OF THE SECRET INFIRMITIES OF YOUTH AND MATURITY,
With 25 coloured engravings.

Just published, sixteenth thousand (in a sealed envelope), price 2s. 6d.; or post-paid to any address, for 3s. 6d., in postage stamps, or Post-office order,

SELF-PRESERVATION: A Medical Treatise, on Marriage, and on the Secret Infirmities and Disorders of Youth and Maturity. Illustrated with 25 coloured plates on the anatomy, physiology, and diseases of the urinary and reproductive organs, explaining their various structures, uses, and functions, and the injuries that are produced in them, by solitary habits and other excesses. With practical observations on the treatment of nervous debility, local and constitutional weakness, syphilis, stricture, and other diseases of the urethra. By SAMUEL LA'MERT, consulting surgeon, 9, Bedford-street, Bedford-square, London, Matriculated Member of the University of Edinburgh, Honorary Member of the London Hospital Medical Society, Licentiate of Apothecaries' Hall, London, &c. 46

REVIEWS OF THE WORK.

"The author of this singular and talented work is a legally qualified medical man, who has evidently had considerable experience in the treatment of the various disorders, arising from the follies and frailties of early indiscretion. The engravings are an invaluable addition, by demonstrating the consequences of excesses, which must act as a salutary warning to youth and maturity, and by its perusal, many questions may be satisfactorily replied to, that admit of no appeal, even to the most confidential friend."—*Era.*

Published by the author: and may be had at his residence; also from S. Gilbert, 52, Paternoster-row; Hannay and Co., 63, Oxford-street; Starie, 23, Tichborne-street, Quadrant; Gordon, 146, Leadenhall-street, London; Newton, 10, Church-street, Liverpool; and all booksellers.

At home for consultation daily, from nine till two, and from five till eight; and all letters, immediately replied to, if containing the fee of £1, for advice, &c.,—9, Bedford-street, Bedford-square, London.

CURTIS ON NERVOUS AND GENERATIVE DISEASES.

Just published, a Medical Work, in a sealed envelope, 3s., and sent, post-paid, for 3s. 6d.

MANHOOD: the CAUSES of its PREMATURE DECLINE, with plain directions for its perfect restoration; addressed to those suffering from nervous debility or mental irritation, followed by observations on Marriage; the treatment of diseases of the generative system; illustrated with cases, &c. By J. L. CURTIS and Co., consulting surgeons, 7, Frith street, Soho-square, London. 47

TWENTY-NINTH THOUSAND.

Published by the authors, and may be had at their residence; also sold by Strange, 21, Paternoster-row, London; Guest, 51, Bull-street, Birmingham; T. Sowler, 4, St. Ann's-square, Manchester; G. Philip, South Castle-street, Liverpool; W. and H. Robinson, booksellers, Greenside-street, Edinburgh; Campbell, druggist, Argyll-street, Glasgow; and sold in a sealed envelope by all booksellers.

REVIEWS OF THE WORK.

MANHOOD. By J. L. CURTIS and Co. (Strange).—In this age of pretension, when the privileges of the true are constantly usurped by the false and fraudulent, it is difficult to afford the sufferer from nervous debility, the unerring means of judgment where to seek relief. The authors of this work have obviated the difficulty. Their long experience and reputation in the treatment of these painful diseases is the patient's guarantee, and well deserves for the work its immense circulation.—*Era.*

CURTIS ON MANHOOD (Strange).—A perusal of this work will easily distinguish its talented authors from the host of medical writers whose pretensions to cure all diseases are daily so indecently thrust before the public. Its originality is apparent, and its perusal breathes consolation and hope to the mind of the patient.—*Naval and Military Gazette.*

CURTIS ON MANHOOD should be in the hands of youth and old age. It is a medical publication, ably written, and developes the treatment of a class of painful maladies which has too long been the prey of the illiterate and designing.—*United Service Gazette.*

Messrs. Curtis and Co. are to be consulted daily at their residence, No. 7, Frith-street Soho-square, London.

Country Patients are requested to be as minute as possible in the detail of their cases. The communication must be accompanied by the usual consultation fee of £1, and the work sent to any address for 3s. 6d. in postage stamps, direct from the authors, or either of the above agents.

The Nineteenth Edition, price 2s. 6d.; free by post, 3s. 6d.

THE SILENT FRIEND: a medical work, on the concealed cause of constitutional or acquired debility, loss of muscular energy, and derangement of the generative system, nervous debility, constitutional weakness, excessive indulgence, &c.; with Observations on Marriage, &c. By R. and L. PERRY and Co., sur geons, London. Published by the authors, and sold at their residence; also by Strange, 21, Paternoster-row; Hannay & Co., 63, Oxford-street; Noble, 105, Chancery-lane, Gordon, 146, Leadenhall-street; Purkiss, Compton-street, Soho, London.

Part I. of this work is addressed to those who are prevented from forming a matrimonial alliance, and will be found an available introduction to the means of perfect and secure restoration to manhood.—Part II. treats upon those forms of disease, either in their primary or secondary state, arising from infection—showing how numbers neglect to obtain competent medical aid, entail upon themselves years of misery and suffering.

The CORDIAL BALM of SYRIACUM is a stimulant and renovator in all cases of constitutional or acquired debility; by its use the whole system becomes restored to a healthy state of organisation. Sold in bottles, price 11s. and 22s.

THE CONCENTRATED DETERSIVE ESSENCE.—An anti-syphilitic remedy for searching out and purifying the blood from venereal contamination, scurvy, blotches on the head, face, and body, ulcerations, and those painful affections arising from improper treatment, or the effects of mercury, or secondary symptoms. Price 11s. and 22s. per bottle; also 5s cases.

PERRY'S PURIFYING SPECIFIC PILLS are perfectly free from mercury, copaiva, and other deleterious drugs, and may be taken with safety without interference with or loss of time from business, and may be relied upon in every instance. Sold in boxes, at 2s. 9d., 4s. 6d., and 11s. each, by all medicine vendors—of whom may be had the *Silent Friend*.—Messrs. R. and L. Perry and Co. may be consulted at No. 19, Berners-street, Oxford-street, London, daily.

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

Society.	*Address.*	*Day.*	*Hour.*
Asiatic	14, Grafton-street	Saturday	3 P.M.
Geographical	3, Waterloo-place	Monday	8½ P.M.
British Architects	15, Grosvenor-street	Monday	8 P.M.
Medical	Bolt-court, Fleet-street	Monday	8 P.M.
Medical and Chirurgical	53, Berners-street	Tuesday	8½ P.M.
Civil Engineers	25, Great George-street	Tuesday	8 P.M.
Zoological	11, Hanover-square	Tuesday	8½ P.M.
Syro-Egyptian	71, Mortimer-st., Cav'ndish-sq.	Tuesday	7½ P.M.
Society of Arts	Adelphi	Wednesday	8 P.M.
London Institution	Finsbury-circus	Wednesday	7 P.M.
Graphic	Thatched-house Tavern	Wednesday	8 P.M.
Microscopical	21, Regent-street	Wednesday	8 P.M.
Pharmaceutical	17, Bloomsbury-square	Wednesday	9 P.M.
Ethnological	27, Sackville-street	Wednesday	8 P.M.
Literary Fund	73, Great Russell-street	Wednesday	3 P.M.
Royal	Somerset-house	Thursday	4 P.M.
Antiquaries	Somerset-house	Thursday	8 P.M.
Royal Society Literature	4, St. Martin's-place	Thursday	4 P.M.
Medico-Botanical	32, Sackville-street	Thursday	8 P.M.
Astronomical	Somerset-house	Friday	3 P.M.
Royal Institution	Albemarle-street	Friday	8 P.M.
Philological	Lond. Lib., 12, St. James's-sq.	Friday	8 P.M.
Royal Botanic	Inner Circle, Regent's-park	Saturday	3½ P.M.
Westminster Medical	27 A, Sackville-street	Saturday	8 P.M.

INSTITUTION OF CIVIL ENGINEERS.

FEB. 2.—Sir JOHN RENNIE (President) in the chair.

This was the first meeting held in the new theatre, which is a fine room, of good proportions, of a simple but bold style of architectural decoration, extremely well lighted, but, above all, well warmed and ventilated; and as a whole may be said to be, perhaps, the best room in the metropolis for the meetings of a scientific body, and well worthy of the important society to whom it belongs.

The paper read was by Mr. W. E. Newton. It gave a description of the method employed by Mr. Herron for the construction of the permanent way of the Philadelphia and Reading and other railways in the United States. The method was a deviation both from the systems of the longitudinal and the transverse sleepers; it consisted of two series of diagonal sleepers crossing each other, and spiked together at the intersections with wooden trenails or iron pins, according to circumstances, forming an extended platform, upon which their longitudinal bearers were laid, supporting bridge-shaped rails with wrought-iron chairs. The paper entered minutely into the modes of construction, the dimensions of the various parts, and the expense of laying the road with the ballasting. It then gave an account of several deviations from the general system, such as making the trellis work of iron laid in bitumen, &c., and also a detail of the amount of traffic conveyed along the railway; whence it appeared that within one year, and five days from its being opened for general use 1,400,000 tons of goods had been conveyed along it, without any prejudicial effect—and, in fact, with less wear and tear than was usual upon railways in the States. The cost of a single line of permanent way was about 850*l.* per mile.—From the discussion that ensued, it appeared to be the opinion, that, although the system might succeed in a country where timber abounded, it was inapplicable for English railroads, and exceptions were taken to the general features of the construction for high speed, as the rails which weighed only 44 lbs. per yard, and of a bridge form, could not resist the impact of the wheels at great velocities, the junctions of the diagonally laid sleepers would become loosened, and there would be too much deflection between the bearing points. These objections were strongly urged, and were received as valid, but at the same time it was admitted that it was extremely desirable to encourage the communication of accounts of foreign engineering works, and the thanks of the meeting were voted to Mr. Newton for the statement he had given, with a request that he would communicate to Mr. Herron this feeling of his English scientific brethren of the profession of civil engineering.

SOCIETY OF ARTS.

FEB. 3.—W. F. COOKE, Esq. (Vice-President) in the chair.

D. Maclise, Esq., R.A., C. L. Eastlake, Esq., R.A., T. Webster, Esq., R.A., J. C. Horsley, C. A. Cole, and G. Ferry, Esqrs., were elected members.

Digby Wyatt, Esq., read an "Essay on the Art of Mosaic, Ancient and Modern." The rooms were filled with beautiful specimens of ancient and modern works of art in mosaic. There were some fine Florentine mosaics contributed by Mr. Brown. Modern glass mosaics of exquisite workmanship, executed by Mr. Pether and Mr. Singer. Encaustic tiles by Mr. Blashfield. Mosaic tesserae by Messrs. Minton, and a large collection of elaborate coloured drawings, contributed by Mr. Blashfield, Mr. Wyatt, and Mr Owen Jones. The author commenced, by stating, that the most cursory glance at the subject must convince that this art, taking the form of either pavement or mural decoration, has been connected with most of the noblest efforts of architectural genius at all ages; and as it is the wish of many at the present time to effect the revival of this art, he would endeavour to convey as clear an idea as possible of the natural history and condition of this graceful handmaid to the science of decoration. The first positive notice of the existence of such an art, occurs in the 6th verse of the 1st chapter of the Book of Esther, wherein an account of the riches and luxury of the Palace of Ahasuerus is mentioned, and that passage clearly establishes the fact, that the Persians were acquainted with the art, and it is supposed communicated it to the Greeks, from whom the Romans obtained their first specimens. Pliny divides the art into four principal varieties—called Tessellatum, Sectile, Figlinum, and Vermiculatum.

The first, the Opus Tessellatum (probably the most ancient): this kind of mosaic consisted of small cubes of marble, seldom averaging more than three-fourths of an inch square—the best specimens of this description of tessela occur at Pompeii, in the Vatican.

The second division of the art, the Opus Sectile was also applied to pavements, and it is in this description of mosaic, that the simple, yet magnificent, pavement of the Pantheon at Rome is executed. This variety of mosaic was formed of thin slices of different coloured marbles, cut into slabs of a given form. The Opus Figlinum were more generally employed in mural decoration, and according to Pliny, was first used in the decoration of the baths of Agrippa, behind the Pantheon; it consisted of figures, fruits, ornaments, &c., by means of small cubes of vitreous composition, composed of alluamin, and some metallic oxide to colour it—no specimen of this description of mosaic has ever been discovered in England. The fourth description of mosaic, or Opus Vermiculum, is subdivided by Ciampini into three varieties. The Opus Major, generally employed in large pavements or ceilings, to represent the figures of gods, centaurs, &c. The Opus Medium was a much finer kind of work, and was generally applicable to walls.

The third division, Opus Minor, or Opus Vermiculatum, was the finest and most elaborate of all the ancient Roman mosaics, and consisted of the most delicate pictures, formed entirely by minute pieces of marble and fictile work—many of the stripes being only the 20th of an inch across. The most beautiful specimen that has been presented to us is the one usually known by the name of Pliny's Doves (a copy of which, in mosaic, was exhibited). There is one kind of mosaic which the author has observed at Pompeii, and which, he considers, may not be inaptly termed the Opus incertain of mosaics—composed of all sorts and kinds of marbles, put together in irregular shapes; and, when united into a mass, with cement, and laid on the floor prepared to receive it, it is reduced to a polished face by friction. In completing the sketch of this art under the Romans, the author stated, that the preparation ordinarily made by them for the reception of the mosaics, consisted in their first placing a layer of large stones, or flints, but with very little cement, on the ground—upon this was placed a course of concrete, composed of smaller stones and lime, beaten and rammed with great care; upon this a third layer of cement was placed; the tessarae, or mosaic, were then placed; and over the whole was poured liquid cement, so as to perfectly fill up the interstices between the cubes. During the reigns of the 12 Cæsars this art rose to an unexampled popularity—during the reign of Adrian, A.D. 138, to that of Caracalla, the art appears to have lost in quality; after the year 220 it became obscured by the clouds which swept the Roman Empire. From the time of Constantine, three varieties arose, which obtained universally in Italy, from the 4th to the 14th century; and, during nearly 1000 years, changed but little, either in principle or design. The Emperor Alexander Severus (A.D. 222 to 235) brought with him, from Alexandria, great quantities of porphyry and serpentine, which he caused to be worked into small squares and triangles, and variously combined—thereby laying the foundation of this art, which formed the pavement of all the rich Italian churches. We have an interesting specimen in Westminster Abbey, referred to the year 1268.

The author, after tracing the history on to its decline, and giving some account of the encaustic tiles, proceeded to state the circumstances which had of late years led to its partial revival. He also gave a detailed description of the processes of manufacture employed by Messrs. Singer and Pether, and Messrs. Minton and Co.; and concluded, by urging on architects, and the public generally, the applicability of the manufacture to the purposes of decoration.

The meeting adjourned, after passing an unanimous vote of thanks to Mr. Wyatt.

THE PATENT MILE INDEX.—A Simple and ingenious contrivance for measuring and indicating the distance travelled by wheel carriages has been invented by Mr. H. Von Uster, of the College for Civil Engineers, Putney, who has secured his discovery by a patent. The invention is equally applicable to private carriages as to cabs and other public vehicles, one of its advantages being that there is nothing unsightly in the apparatus, which, indeed, can scarcely be seen at all when the carriage is in motion. A plane-spiral rotator is concealed within the hoop of the nave of one of the hind wheels, and gives action to a shaft or small rod of iron which is carried horizontally nearly as far as the opposite wheel. At this point, a universal joint connects the horizontal with a vertical rod, which latter continues the action into the body of the carriage under the seat. Here two or three wheels give motion to a suitable shaft or chain, which is concealed between the panels of one side of the carriage, and terminates near the roof in a dial plate provided with two faces, one inside for the use of the passenger, and the other outside, in which the driver and his fare can together note the position of the hands before the latter steps into the cab. Both dials have exactly the face of a clock, being furnished with an hour and a minute hand; and hours, half-hours, and minutes, are indicated on the dial precisely as in the ordinary time-piece. As the hands perform the circuit of the dial, the divisions of hours, half-hours, and minutes, correspond exactly with the miles, half-miles, and fractions of a mile actually traversed by the vehicle. Thus, if the dials indicate 20 minutes past 12 when the passenger enters the cab, he will know that he has travelled exactly a mile when the dial within points to 20 minutes past 1; a mile and a half when it points to 10 minutes to 2; two miles when it arrives at 20 minutes past 2; two miles and a half at 10 minutes to 3; and three miles at 20 minutes past 3; and so on. A small circle within the dial face, with a pointer answering to the second-hands of a watch, enables the owner of the carriage to satisfy himself, as to the total number of miles which the vehicle has travelled in any given period. The passenger is thus supplied with a perfect check against overcharge, while the proprietor has the means of knowing the amount of mileage actually performed. The convenience and simplicity of adopting, as the index of distance, a method of calculation so familiar as the face of a clock supplies, need hardly be pointed out. Two points essential to the success of such an invention remain to be noticed. The contrivance must, in the first place, accurately denote the distance traversed; and in the next place the apparatus must be of such a nature and so placed that it cannot be resolved and tampered with either by the driver or the passenger. These two requirements appear to us to have been fully provided for by the inventor. The patent mile index has been fitted to a brougham, which has, we are told, travelled between 200 and 300 miles over paving stones and rough roads, and under circumstances calculated to test severely the working of the apparatus, and always with the same satisfactory result. We had an opportunity on Saturday on proving the accuracy of the index, by travelling several miles in the carriage in question; and on comparing the revolutions of the hour and minute hand at each measured mile, we were, we confess, surprised by the nicety of the result. Of course, in a public road, a vehicle in meeting and passing others is occasionally obliged to diverge from the straight line, and thus passes over a few yards more ground than the measured mile. But the variation only amounts to about half a minute or so in a mile; and as the index shows the distance really traversed by the wheels, it is in truth a more equitable guide than the mile-stone itself. The possibility of tampering with the apparatus has been effectually prevented. The dials are protected by a thick glass, which must be broken before the hands can be reached; and even then they cannot be put backwards or forwards, but must be broken, if moved at all. The wheels of the index under the seat are boarded over, and cannot be reached—the shaft or chain which connects them with the dial is enclosed within the panel of the carriage, and there remains only the iron rod under the carriage that can be approached from without. This may be wrenched or bent by force, but in that case the action of the index would cease altogether. It may, probably, be necessary, to protect this rod by spikes behind the carriage, or by what is, we believe, called an opera board, or even to enclose it in a small wooden tube—in which latter case it would, like all the rest of the apparatus, be rendered entirely inaccessible. The motion can be carried to any part of a vehicle; and in the case of private carriages, a chronometer might be placed with the wheels in a box under the seat. A reform in our cab system has become one of the recognized wants of city life, and the first great step in this direction must be in the passenger himself possessing an effectual check upon overcharge. Perhaps, the parties most strongly interested in such a reform are the proprietors and drivers of public vehicles, since it must often have occurred to our readers that a much greater aggregate amount (probably nearly double the present amount) would be received in fares every year by cabmen, if they would be content with their legal fare, and would receive it with civility. It has been said, that a journey by a cab or a hackney-coach "always begins with a waterman, and ends with an altercation;" and every one knows that hundreds of persons either walk, or make use of other conveyance, or forego visits altogether, rather than place themselves *en rapport* with a sulky or abusive cabman. The denizens of the metropolis and of the other large towns in the empire, will be under considerable obligations to Mr. Von Uster, if the adoption of his ingenious invention is found to deliver them from so fruitful a source of minor social annoyances.

THE AUSTRALIAN MINING COMPANY.

In last week's Journal, we alluded to an entertainment given by the board of directors of this company, at the London Tavern, to the Hon. Jacob Hagen, one of the committee of management in Australia, and now on the eve of returning to the colony, at which S. J. CAPPER, Esq. (the chairman), presided. The party (in number 26) comprised the following:—The Bishop of Tasmania, the Hon. Jacob Hagen; John Masterman, Esq., M.P.; W. T. Copeland, Esq., M.P.; H. T. Anstey, and F. S. Dutton, Esqrs. (author of *South Australia and its Mines*); Col. Torrens (chairman of the first South Australian commission); D. Mildred, Esq.; R. Palmer, Esq.; W. Milliken, Esq. (secretary of the Bank of Australia); W. Rotheray, Esq., and G. C. Capper, Esq., Edward Hagen, Esq. (deputy-chairman); H. De Castro, H. I. Enthoven, James Horne, B. E. Linde, and J. Masterman, Jun., Esqrs. (directors); John Capper and T. Mildred, Esqrs. (trustees); Henry Buckle, and G. Palmer, Jun., Esqrs. (auditors); Thomas Hanson Peile, Esq. (solicitor); and G. E. Hodgkinson, Esq. (secretary).

After proposing the usual loyal toasts, the CHAIRMAN said he had the high gratification of seeing amongst them their distinguished guest, the Hon. Jacob Hagen, who held the high position of a member of the council in the colony; and perhaps, in the estimation of many of the gentlemen he then saw around him, the scarcely less important position, a member of the committee of management of the Australian Mining Company. He perceived, on his first coming among them in this latter situation, that he was in earnest—that he grappled with the Deed of Settlement, and made himself thoroughly master of all its intricacies, like a thorough man of business—explaining, clause by clause, his views of their operation in the colony—the perfect frankness with which he commented upon this, and upon all the proceedings of the directors, could leave no doubt of his perfect candour—it was a great matter in the promotion of works at so great a distance to feel, that in the Hon. Jacob Hagen, they were identified with a man of business, a man of sincerity, and a gentleman. He had previously the pleasure of being acquainted with three of the four gentlemen associated with him—Mr. Anstey, Mr. Hart, and Mr. Montefiore. He knew it had been said by some, that the concern was too far off; but, bound together as they were by mutual interest, and he trusted he might now say by mutual friendship, the only feeling which the distance between the directors and the committee at the antipodes gave rise to, was the regret that it would not allow them the opportunity of similar annual meetings, to enjoy the pleasure which Mr. Hagen's company afforded them this day. He begged most cordially to drink health and happiness to the distinguished guest, the Hon. Jacob Hagen.

Mr. HAGEN said, he felt very sensibly the compliment that had been paid to him, and the flattering manner in which his name had been proposed and responded to—he was sure it would be equally gratifying to every member of the committee in the colony. He believed that they had succeeded in obtaining a most valuable property at the "Reedy Creek;" and, notwithstanding the difficulties with which their path in the commencement had been beset, he doubted not that their united and cordial co-operation with the energies of the directors here, with the talent and perseverance of his excellent friend (the chairman), the results would be equal to their most sanguine hopes, and prove a rich reward to the directors and the shareholders, as well as a great benefit to the colony. He was sure they could not be too earnest in doing full honour to the toast he was about to propose, the health of their esteemed and excellent friend the chairman.

This toast having been suitably acknowledged, the CHAIRMAN said it afforded him great pleasure to be honoured with the presence of the Right Rev. Prelate, the first Bishop of Tasmania; and, in thus welcoming his early friend and pastor at Leyton, where he had long had the opportunity of admiring his earnestness and great talent, that he believed no man could have been found, who, among the many and depressing discouragements which he could not fail to meet in that far distant settlement, where the enemy had so long and so unsparingly sown the tares, would, by his patient and untiring zeal, and persuasive eloquence, be instrumental to cause the good seed to take root and bear fruit—to inculcate the great principles of love, and peace, and joy—to lead men, whilst tending their flocks, and cultivating the soil, and searching for the hidden treasures beneath the surface, to cultivate nobler and more exalted objects—to strive themselves to enter into the true fold, and to seek the far richer and inexhaustible treasures that are above. He knew no man more admirably adapted faithfully to carry out the objects of his arduous mission, to promote that great end which they all had in view—"Glory to God in the highest, on earth peace, good will towards men." It was with the most sincere pleasure he proposed the health of his Right Rev. friend, the Lord Bishop of Tasmania.

His LORDSHIP, in returning thanks, assured the chairman and the directors of the sincere pleasure with which he attended their hospitable meeting, and appreciated the kind sentiments expressed by his old and esteemed friend, and former constant attendant on his ministry, when he was the curate of Leyton. He now held a higher and yet more responsible position, as the first bishop who had ever set foot on the far-distant colony of Tasmania; where, indeed, the evil that had been planted had taken such deep root, he felt that he had a great and solemn duty to perform—not consulting his own ease, or his own feelings, or the wretched convenience of a temporary ingredimcy—but he had to carry out high and enduring principles, which would not embarrass his successor in the diocese, or in the neighbouring dioceses, which, right now, would be equally right 100 and 1000 years hence. These principles, with God's blessing upon his earnest and humble efforts, he would firmly uphold; and he called upon the Australian Mining Company to remember, that they were now an established and important association—that the eyes of the colony and of the world were upon them—that their example would be followed for good or for evil—that they had an honourable, and, he doubted not, a profitable, object in view, in developing the mineral riches of the soil for their own profit, and the benefit of the colony; but there were higher and nobler objects mixed up in this great undertaking—they must never forget that their capital would draw around them a great population—they must remember, seriously and solemnly remember, that their workmen and dependents had souls as well as bodies—souls to be saved, as well as bodies to be provided for—that they would be, and must be, responsible—they could not shrink from it—places of worship and schools for the moral and religious instruction of the young, must form part of their large and laudable undertaking; and he told them, with a pastor's love, a bishop's council, and a bishop's warning, that they could not avoid that solemn duty without a fearful responsibility. He spoke not in doubt—he felt a strong assurance—the sentiments of the chairman—the manner in which those sentiments had been received—gave him an earnest and assurance that the directors would receive what he had felt called upon to utter in the way of council, and warning, and exhortation, in that spirit of Christian love with which he spoke; and his lordship concluded his most impressive and eloquent acknowledgment of the toast amidst great applause, by proposing the health of the deputy-chairman.

This having been acknowledged, the following toasts were proposed from the chair, and responded to:—John Masterman, Esq., M.P.; Col. Torrens; Roundell Palmer, Esq.; the other guests present, including Mr. Anstey, Mr. Dutton, and Mr. Milliken; the Committee of Management in the Colony, Daniel Mildred, Esq.; and the Company's Bankers.

The "Prosperity of the Company" having been proposed by Mr. Masterman, M.P., and the health of the directors, trustees, and auditors, having been severally given, those of the solicitor and the secretary were then proposed, and the party separated, highly delighted with the entertainment.

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending Jan. 30, was 16,026; amount of money, 300 10s. 0d.

SILVER AND GOLD MINES OF THE NEW WORLD.—No. III.

From the time of Cortez, the working of the silver mines of Tasco, Sultepec, Pachuca, Tlapujahua, was continued, nearly all having been first opened in the interest of the Montezumas. Soon after were opened those of Zacatecas, and even the vein of Guanaxuato was attacked in 1588. At the commencement of the 18th century, Mexico only yielded 1,800,000*l.* of gold and silver; but 15 years later it yielded 2,600,000*l.* A little later the mine of Valencia began to yield; and, in 1775, the produce of Mexico amounted to 3,400,000*l.*; in 1788, it was 4,280,000*l.*; and, in 1795, 6,400,000*l.* It remained pretty nearly at that point—being sometimes a little more, sometimes a little less—until 1810, when the war of Independence broke out. The gold declared for the imposition of taxes, represented on the annual amount, from 1775, from 400,000*l.* to 600,000*l.*

Mexico at that time yielded more silver than all the rest of the world, and such is the case to this day.

This mass of precious metal, particularly of silver, has been converted almost entirely into piastres. As Spanish America supplied almost all the silver brought to light in the world, the Spanish piastre became the most common money employed in general commerce—8½ piastres weigh 1 marc of Castille, and the primitive title was of "$\frac{11}{12}$ths fine," or 917 parts in a thousand. The quadruple of gold is of the same weight, and was originally of the same title as the piastre; it is for gold what is called 22 *karats*. To 1772, the Spanish Government scrupulously observed the rules that it had made for itself in coining, and the title of the piastres remained at $\frac{11}{12}$ths, or, according to monetary language, at 11 *deniers*. At that period the Cabinet of Madrid took upon itself to violate with impunity its engagements towards the whole world, which employed its money in all confidence, as the most faithful representation of value. The title was clandestinely reduced from $\frac{917}{1000}$ths to $\frac{903}{1000}$ths. It is not necessary to say that commerce immediately perceived the alteration, and that the new piastre circulated for no more than it was worth. Puerile precautions had been taken to envelope the fraud in mystery. False weights were given to the assayers, to be used before the public, as if there were no assayers in the world, except in Mexico or Lima. Up to the Independence, these agents, when nominated, were compelled to make oath not to divulge this State secret, which was known to all the changers and merchants of the world. In 1786, a new lowering of the title took place on gold, and the quadruples had no more than 21 *karats*, or $\frac{875}{1000}$ths of fine. The republics of Spanish America, to render them justice be it said, have maintained the titles they found, of 903 for silver, and 875 for gold. It is by exception, and most frequently by ignorance, that, in moments of trouble, they have emitted moneys of a lower title. Thus, even to this day, of all silver moneys, the piastre is the only that is universal. It is in piastres that the accounts of the counters in India and China are settled; it is the piastre that is found in Algiers, and which is preferred by the Arab and the Kabyle. The dollar of the United States is only the Spanish piastre. The Turkish sultans adopted the Spanish piastre.* The five-franc piece, however, of which a large quantity has been struck off, and which is correct in weight and title, commences to be common in the general market. We must not have exaggerated notions, as to the general proportion of silver found in a determined weight of Mexican ore. The opinion, common in Europe, that one treads upon masses of native silver in Mexico and Peru, as in El Dorado, is without foundation. Certain mines of the old continent† have presented blocks of native silver, as fine as any that can be cited in the new; and, except in some privileged nooks, blessed by the miners, other ores, besides native silver, do not present themselves in Mexico and Peru in compact masses. The thin ores of Saxony and Hungary are less poor than the average of Mexican or Peruvian ores—the difference is frequently more by one-half; but, in the thickness of the veins, the Mexican and Peruvian mines have an extraordinary superiority. In Saxony the veins are of two or three *decimetres*, and frequently choke one another. In Mexico the veins sometimes are so enormously large, that they must be measured by tens of yards. Thus a vein, which in the largest part of its thickness encloses silver *sulfuré* in almost imperceptible parcels, may furnish in a month half of the silver which all the mines of Saxony would yield in a year. It results from a comparison between the celebrated mine of Himmel Furst, situated near Freiberg, in Saxony, and the Mexican mine of La Valenciana, such as it was in 1803—that the first being rich to the extent of 6 or 7 ounces per quintal (3000ths $\frac{1}{10}$ths, or 4000ths $\frac{1}{12}$ths), the second was only to the extent of 4 ounces (2000ths and a half); but the Saxon mine, with 550 men, the first miners of the world, working the outrails of the earth according to methods of the highest pertection, yielded annually only 700,000 kilogrammes of ore. The Mexican mine, which occupied in the interior 1800 labourers, or more than three times as many, and employed the clumsiest systems of working, yielded, on the contrary, to the metallurgic workshops 33,120,000 kilogrammes—50 times as many. The first supplied 2300 kilogrammes of silver; and the second 82,800 kil., or 36 times more. The nett profit of the former was 3600*l.*; the shareholders of the latter divided 120,000*l.* La Valenciana spent in wages in the country 136,000*l.*; and paid each of its workmen, amounting altogether to 3100, at the rate of 4s. to 5s. a day; whilst Himmel Furst spent in wages only 8000*l.*, paying its 700 workmen, both of the interior and the surface, an industrious and intelligent race, not quite on an average *nine pence* per day.‡ The researches of M. d'Elhuyar have caused to be known the average yield of all Mexican ores, treated at the commencement of the century, was 1000ths and $\frac{4}{10}$ths to 2000ths and a half, or, to speak in the language of miners, from 3 to 4 ounces of silver per quintal. Recent trials, made after the best systems of modern science, fully confirm this valuation of the former director-general of the mines of Mexico. This poverty of the Mexican ores, even with the abundance which the soil presents, renders the working of them difficult. If Mexico possessed the riches of the *Arabian Nights*, they had to be conquered. Had they been guarded by dragons, as those of the fable, they would not have cost more trouble to obtain. Some words will make this understood.

II. CHARACTER OF THE WORKING OF THE MINES IN MEXICO.

The name of New World is given to America. No one would fancy himself in a new world on debarking at New York, Philadelphia, Quebec, or Havannah, or in walking in the streets of Boston and Albany. Philadelphia and New York, Boston and Albany, are Old England—are the descendants, in the first generation, of Bristol, Hull, and Liverpool. The same style of building, tidy little brick houses, with little doors and little passages, the kitchen beneath the ground floor; the same multiplication of churches; the same race of men, more stiffly dressed, perhaps; the same sort of life. Havannah is Old Spain, with tortuous and narrow streets, along which are elevated houses, which are often beautiful as palaces; the population, too, is Spanish—a mixture of blacks alone showing that it is another country. Quebec is Basse Normandie with an English garrison; something like Rouen might have been during the invasion of 1815. Vera Cruz, before the exterminating angel of revolutions had passed over it, pointing upon it a mark of sadness and ruin, was Spain beautifying itself, widening its streets, and getting rid of its beggars. The traveller, finding there the mantilla and the little fort of Andalusia, would have thought himself on the southern coast of Spain, on those spots where by chance it is sandy, arid, and uncultivated. On the Mexican table land the name of New World would be more appropriate and true. There Nature and man are different; the rigid vegetation of the *nopals*,§ and the *magueys*‖, magnificent aloes, which abound in this rarified atmosphere, give it a peculiar aspect. There, too, are other conditions of existence for human kind, for animals, for vegetables. By its site, at an immense height in the air, and yet at the foot of mountains, at the bottom of a basin, in danger of inundations—by its vast architecture, regular, without tiresome uniformity—Mexico resembles nothing but itself. It is no longer Europe—it is a capital full of original and strange majesty. The physiognomy of its inhabitants, of those considered undoubtedly white, differs from that of the family of Japhet. By their features and their look, we recognise the mixture of another blood. A part of the population, less numerous in the town than the country, is of pure aztéque race, and, by the colour of its skin and fashion of its clothing, makes known to the European that he has ceased to be at home—that he is in a new world.

Here, or to speak more correctly in both Americas, the districts of silver mines and metallic art are profoundly marked with the characteristics of a new world. Everything is different to what it is among ourselves. The silver region seems never to have had any communication with Europe, although it is the European's thirst for gold which led to the working of the precious metals. The art of mining in China, by its economical and technical qualities, differs less from that of Europe. Here, by the side of a chemical operation, which European science has not inspired, which it has been three centuries without explaining, we find mechanical operations that are clumsy, stupid, and, by consequence, most onerous, for nothing is so dear as ignorance. Such is the operation for raising water (frequently too abundant at the bottom of mines) 300, 400, or 500 metres—no pumps are employed, not even a cask, but the water is drawn forth by means of a copper bag, suspended to a cord, which is painfully worked by mules that are made to gallop.¶ In mines there are shafts of an unexampled width, larger than the *facade* of the house of a wealthy citizen of New York, and no effort is made to utilise for the salubrity of the mine and the safety of the workmen, these excessively costly holes.** With such spacious ways from the top to the bottom, there are employed no means of supplying or taking off air, and the communications are badly established and dangerous. They may be confined to an edifice erected by a stupid architect, in which to pass from one room to another it would be necessary to go all round the building. In the interior of the mines, the Mexicans have contrived to render the transports most costly, by causing them to be made on men's backs, in galleries, with steep ascents, whereas nothing would have been easier than to have had galleries on a level, large and high, with horses and railways.†† These differences from what is usual in Europe, can only be ascribed to wrong-headed and obstinate ignorance. Other circumstances in the extraction of the precious metals in America are striking, from their novelty and aboriginality. Arising from the soil itself, they are commanded or counselled thereby. Sometimes they are burdens effected by animals, that the vulgar of Europe, if they heard their names, would be inclined to rank with fabulous animals like the unicorn. I refer to the *lamas* and *alpacas*,‡‡ which are employed by thousands in this service. Elsewhere there are beasts of burden yet stranger, the sight of which humiliates the friend of civilisation—men taking the place of mules in carriages,§§ or serving as foot-horses. In the mountainous province of Anteoquia (New Grenada), not only in the mines, but in long voyages, from one side to the other of La Cordillere, we mount men, as in Europe we mount horses. In the mines of Mexico men also serve as horses, but demand to be well paid.

[To be continued in next week's Mining Journal.]

* They have reduced it to less than the twentieth of its value, by mixing other metals with it.

† Those of Kongsberg in Norway, of Schneeberg in Saxony, and of Sainte Marie aux Mines in France, abandoned, but perhaps erroneously, have given masses of native silver of the weight of 30 kilogrammes, which would be sought in vain in the richest mines of the New World.

‡ See Humboldt's *Essai sur la Nouvelle Espagne*, vol. iii. p. 206; and D'Aulisson's *Mines d'Allemagne*, vol. iii. pp. 6 to 45.

§ The nopal is a *cactus arborescent*.

‖ The mangey is the *agave Mexicana*, a sort of aloes, of which the juice makes a fermented liquor, generally in use since the time of Montezuma, and which to this day, among 19-20ths of the population, is used instead of wine.

¶ Everybody knows, in Europe at least, that, in gallopping, the horse has the least mechanical strength. To this day, however, it has been impossible to convince Mexican miners of this truth.

** In the mine of Valenciana, three shafts have cost 10,000,000 fr. (400,000*l.*) At Mons, shafts of 400 metres in depth, sunk in earth that contains torrents of water, and of dimensions that suffice for the extraction of masses tenfold more than are drawn from the mines of silver, cost 200,000 fr. (8000*l.*) It is 16 times less than one of the shafts of La Valenciana.

†† The use of railways in mines dates, it is known, from a long time back.

‡‡ These animals resemble great sheep. At Potosi, which depends on Bolivia, 15,000 lamas, and as many asses, transported, at the commencement of the century, the ores from the mine to the furnaces. Before 1795, the period at which a general falling-in of earth stopped all the works at the mercury mine of Cerro de Santa Barbara, near Huancavelica, 7000 alpacas and lamas, conducted and governed by intelligent dogs, bore the ores drawn from the bosom of the earth to the furnaces destined to extract the metal by distillation, which were placed at the gates at the town of Huancavelica. These animals are unknown in Mexico.

§§ The Indians' *tenateros* (who make the conveyances in the interior), may be considered the beasts of burden in the mines of Mexico. They remain loaded, with a weight of from 225 to 350 lbs., during the space of six hours. In the galleries of La Valenciana and of Rayas, they are exposed to a temperature of 22° to 25° Reamur. They mount and descend, during this time, several thousand steps, by inclined shafts of more than 30 degrees. We meet in the mines files of 50 to 60 of these porters, among whom are old men of 60, and young children of from 10 to 12. We are constrained to admire the muscular strength of the *tenateros*, Indian, and metis, of Guanaxuato, especially when we feel worn with fatigue in going out of the greatest depth of the mine of Valenciana, without having borne the slightest weight—(Humboldt's *Nouvelle Espagne*, vol. iii., pp. 242, 243). M. Duport, who gives the latest information (1842), says that conveyances in the interior are still made in the same manner. It should, however, be stated that this labour of the Indians is voluntary, and that they receive pay three or four times greater than other labourers.

THE THREATENED INJURY TO THE MINING INTEREST OF CORNWALL.

"To be or not to be! that is the question."

MINERS OF CORNWALL!—Months have elapsed since the press announced your doom! A hireling press! a part of which your kindness fostered in its infancy, and supported to maturity—that press then published to the world memorials either concealing facts to mystify the real objects of the memorialists, or stating falsehoods to impose on the Government.

The *Morning Chronicle*, upon the credit of evidence which would be scouted in any court of law in the kingdom, said, that "the memorialists came forward again, urging their petition on the ground, that *unless the duty be forthwith repealed, the copper trade in this country will be utterly destroyed*:" and, as this would imply that the riches of the foreign mines were so great, compared with the poverty of our mines, that unless we conceded to them upon equal terms every facility which Nature had happily bestowed on this kingdom for the smelting of copper ores, they would no longer trouble themselves about importing the rich foreign ores to this country, for the purpose of making them marketable with our ores, but abandon our poverty-stricken mines altogether, and seek under more liberal rulers, countries where the conversion of the rich foreign ores into metal would so swamp the copper market, that "the copper trade," and, of course, the copper mines, "of this country will be *utterly destroyed*."

So said the great oracle of the free traders in metals about two months ago. At that time, the lesser oracles, which had just then been converted, published the terrible memorial, but did not speak quite so plainly. Some advocates are much more efficient helpers to a cause, if, by taking a fee, they preserve silence themselves, but afford to others the facilities of communicating their wishes—I will not say opinions; for men concerned in such a plot too often think one way, and write another.

Well, miners! whilst all this was brewing against you, where were your employers, and natural protectors—were they cheering your spirits, and urging you not to despond? Did they tell you, that they would fight your battle of truth and justice to the last; and that during the high price of food, when the most prudent of you could scarcely keep your families from your respective parishes, a Liberal Ministry could never act so illiberally as further to reduce your miserable pittance, by withdrawing from you that small protection to which the memorialists themselves victoriously reduced you in 1842? that protection, which, though the then Prime Minister was made to believe, enabled you to sleep on feather beds, he refused to alter last year, because he knew that less would deprive you of beds altogether.

Now, miners, the publication of such a memorial but a few years ago, would have roused the whole country to action—but the threatened destruction "of the copper trade of this country, and, of course, of its mines, with all the letters bolstering up such a threat, remained from week to week as much unnoticed by your former leaders, as if it did not concern Cornwall. Fearing that we were losing time, I wrote to a gentleman who had always taken a lead in your behalf—and who well knows that no other country affords the facilities for smelting ores that this does—to get together a meeting of the mining interest. Differing rather in opinion with me, as to the nature of the meeting which I had in view, as I learnt in reply, though a public meeting was not refused, after some correspondence I was asked, if a meeting of the principals of the mining interest would be satisfactory; and my answer was, any meeting sufficiently public, that Ministers might know that we were quite alive to what was doing against us, and determined to support our mining interest.*

That meeting was fixed for Monday last; and on informing my neighbour, the Member for east Cornwall, of it, he immediately determined to attend.

My correspondent, who undertook to communicate with the principals of the mining interests on the subject, well knew that with safety to my health I could not attend, and it was on that account that I did not press that the meeting should be so public as I could have wished; but I thought, that as he had kindly entertained my proposal, I would address a letter to the said Member for east Cornwall, setting forth the dangers which surround the copper mining interest of Cornwall, and detailing briefly how, from the time that the law first enabled people to bring foreign ores to this kingdom to be smelted under bond for exportation—though the smelting companies were at first, generally speaking, your best advocates and friends against the measure—all of them had dropped off, with one solitary exception; and how that a person connected with one of those establishments—after writing the most able letters to prove, that even under the then system of smelting copper ores under bond for exportation of the metal, Cornwall could not escape being most unjustly ruined—turned round and wrote anonymous letters, through the same medium of communication, for the purpose of nullifying all his former arguments!

Well, the said Member, Mr. W. Rashleigh, jun., found seven gentlemen assembled on this momentous affair at Pearce's Hotel, Truro. One gentleman asked, why I was not there, as he understood that the meeting was called at my request. Two other gentlemen asked Mr. Rashleigh to read some parts of my letter, which, on his declining, because there were no reporters, another gentleman desired Mr. R. to tell me that it was "not a packed meeting." I pass over what was said about the chance of my letter, if read, making converts of some of the parties, or of the hopelessness expressed of protecting our mines, now that corn was to be unprotected; but, notwithstanding the smallness of the meeting, I waited most anxiously for Friday's Cornish papers to see what resolutions were come to. No notice, however, of the meeting was taken by either paper; and your natural protectors, the Members for the county, have left Cornwall for Parliament, without you having the least ray of hope that any support would be afforded to shield you from those, who having no community of interest in your mine, would, to effect their own objects, sacrifice every one of them, and according to the free trade doctrines, turn you, your wives, and your children, upon the wide world, to seek for other employment.

Therefore, though grieved, I was not surprised, at learning before the week transpired, that many hundreds of your class had determined to prevent the shipment of corn; and though I took immediate measures to prevent that, I had further the mortification to learn, on Saturday morning, that delegates from other mines had been tampering with my miners—that at Par Consols Mine, not a man was underground—and that my presence (bad as the weather was) would be required to meet the miners at Fowey Consols setting, without delay; and I trust that, as far as the quietness of the county is concerned, I did not go there in vain. That their wages were low at Fowey Consols, taking the present price of corn into consideration, I lamented in common with themselves; but as they knew that their wages absorbed all the money made by the produce of that mine, after the payment of the other outgoings, not one man complained of the wages he had, nor was there any complaint made but by one man, who had an advance of 20s. in the nature of a loan, who would rather have had 30s.! Here, then, is one of the largest mines in Cornwall, that must, if our little protection be taken off, deprive of employment more than a thousand people, and, which, before the injury done to the Cornish miner by the tariff in 1842 employed nearly 2000.—Yet, said the memorialists in 1845, the importation of foreign copper ores "duty free," will be felt as an advantage "by the owners of the British copper mines."

Now, in sober sadness, I wish to ask all those gentlemen who formerly stood so firm in support of our copper mines, what spell has come over them to induce any one to hint at the probability of becoming converts to my opinions? I thought, indeed, before, that we were exactly of the same opinion; and as I know that our opinions were then based on truth, I would ask whether the progress of free trade towards corn must necessarily compel us to sacrifice our copper mines also. Talk about converts to my opinion! Why, in 1842, we were all of the same opinion; and I think that it would puzzle either of the gentlemen with whom I then acted, to show that our present protection acts as a prohibition to the smelting of foreign ores in this country, or costs so much as that process would cost abroad; and if they cannot do that, our opponents have no case. They have no case according to the free trade notions which prevailed among Ministers, and all other parties, in 1842; but, as I have before shown, when writing on this subject, the raising of minerals from our own soil, and their smelting and manufacture in this country, is of double the service that can be derived to the country by the importation of such minerals from abroad, even if not the produce of slave labour.

As I said to many of you on Saturday [see *Mining Journal*, Jan. 23]—bear, without breaking the law, your present distress; and I trust that a proper examination and comparison of the memorials presented last year, and this year, against the present small protecting duty will prove that the documents are in some measure contradictory, untrue, and afford no evidence whatever to shake that upon which the present law was based in 1842; and, therefore, miners, there is no just reason for changing the law then made.

Now, I will shortly call your attention to the deceptive statements which the little oracles under the pay or power of the smelters have since brought forward.

First, we heard so much of the richness of foreign mines, that unless we encouraged their produce to find its way to our smelting houses with the same facilities as our own ores—such ores, forsooth, would be smelted elsewhere to our eternal ruin.—Now, however, it has been found more politic to cry down the riches of the foreign mines, and to hearten up the British miner, by clearly shewing to him how much greater his chances are to get rich by mining at home, than by mining abroad; and, no doubt, to satisfy our Liberal Ministry, that any duty on the smelting of foreign ores must be illiberal, seeing how far the British miners are from requiring protection! A list, therefore, of those British mines which the parties know are making the greatest profits for the last year, as was published in the *Mining Journal* of the 9th, by which it appears, that 28 British mines, named in the first table, did, during the last year, make dividends to the amount of 158,838*l.*, the paid-up capital on them amounting to 190,000*l.*, —and their market value, according to the share list, being 1,343,000*l.* The interest paid, therefore, for the year is upwards of 80 per cent. on the paid-up capital, and about 11 per cent. on the market value. Taking the list separately, however, it must be observed, that many of the mines are paying 20 per cent. upon their market value; and many of them altogether have paid as much as 200,000*l.* each in profit. Wheal Friendship, for instance, under the present management (that of John Taylor, F.R.S.) has paid a net profit of 270,000*l.*—That the dividends paid on foreign mines named in the second table were—

Mines.	*Amount.*	*Per Share.*	*Paid.*
Cobre Company	£12,000	£1 0	£40
St. John Del Rey	11,000	1 0	15
United Mexican	10,723½	0 5	28½
Santiago	8,050	1 3	10
Alten	1,250	0 5	14½
Totals	£43,093½		£1,159,665½

From this it would appear, that in five foreign companies the paid-up capital is 1,159,665*l.* 10s.; and the dividends paid in 12 months, 43,093*l.* 10s., or about 3¾ per cent. The market value, according to the share list, is 539,696*l.*—interest, therefore, about 7 per cent.—That the dividends paid on Welsh mines in the third table were—

Mines.	*Amount.*	*Per Share.*	*Paid.*
Goginan	£9000	£90	£5
Lisburne	9000	90	75
Totals	£18,000		£8000

This table shows the paid-up capital in two mines to be 8000*l.*, and the yearly dividends 18,000*l.* Of the market value we are unable to speak, as the shares are held by a few individuals and are never on sale. On referring to table 1, it will be seen that in 28 mines the total amount of dividends paid in 1846 amounts to 158,838*l.* In 1845, the dividends on 18 mines amounted to 215,450*l.* The falling off this year arises chiefly from the Devonshire Great Consols and East Wheal Rose. The former, in 1845, paid 55,296*l.*—this year 37,888*l.* This decrease, we are informed, has been owing to the enormous outlay required in laying out works at surface commensurate with the magnitude of the operations going on underground, in the erection of machinery, and in the purchase of timber, amounting to several thousand pounds, and adding to a reserve fund now amounting to 5000*l.*, and invested in Government securities. The latter mine, East Wheal Rose, paid in 1845, 52,864*l.*—this year, 30,720*l.* This has arisen from an accident which happened in July, whereby the mine became filled with water, 40 persons drowned, and not only considerable damage done to the works, but the ores could not be raised for nearly two months. We may add, however, that in addition to the dividends, 1000*l.* were given by the adventurers to the fund for the relief of the families of those who suffered in the flood. The total amount paid by the mine, as profit, in about six years is 160,000*l.* In comparing the tables 1 and 2, the reader cannot but observe the great advantage of British over foreign mines.

The market value of 28 of the former is, 1,343,000*l.*, whilst the paid-up capital on them is only 190,000*l.* On five foreign mines only, the paid-up capital amounts to the enormous sum of 1,159,665*l.* 10s., whilst the market value is 539,696*l.* or less than half!† What cheering prospects to the Cornish miner from the same Cornish paper on Friday last! which, immediately after it was supposed that the tariff of 1842 had crippled the Cornish mines beyond redemption, exclaimed—"It is altogether idle to talk of the capital employed, or the people employed in this or the other mines. The entire mining capital of this county does not afford a clear return of more than 3 per cent. The money is thrown away and the men are wasting their time. 'The cost is more than the worship.' They had better been cultivating the flanks of Brownwilly, or draining the moors and enclosing the wastes near the Jamaica Inn. These unproductive mines serve merely to waste the national resources. Dealers in materials are the only persons who have an interest in the matter. For every pound sterling withdrawn from this country by the new tariff, the nation will gain 1000*l.*, and Cornwall for her share more than 1*l.* of that 1000*l.*

Such, miners! are the oracles which would either intimidate you, or flatter your prospects, to divert your attention from guarding your own interests; for guard them you must, seeing the change which has so strangely deprived you of those whom you formerly trusted, and whose interest is inseparable from yours.

Be patient and quiet, and I trust that the threatened evil will be averted.

Place, Jan. 18, 1847. I am, your unflinching friend, J. T. TREFFRY.

* I have not referred to the correspondence, but the substance of it is as above stated.

† If strangers were to read this, and the remainder of the report for 1846—[as published in the *Mining Journal* of Jan. 9, 1847]—they would never think that many losing mines existed in Cornwall—whereas, not long ago, and probably at present, of all the Cornish mines which regularly sold copper ores at the ticketings, about 3 to 1 were losing mines! besides which, all the new mines which had not taken ores to market were supported from the capitals of their proprietors—and for what purpose could such facts have been omitted?

IRON CONTRACTS.—A statement has reached us of the proceedings of a German Railway Company in effecting a contract for railroad iron, which requires immediate publicity to put the trade in this country on their guard against the possibility of its repetition. It appears that the company in question requested tenders for 8000 tons of railway iron; and, in consequence, received tenders from three parties in England at the respective prices of 10*l.* 10s., 10*l.* 5s., and 10*l.* per ton, on the faith, as is the practice with us, of the parties being equally situated as competitors. Instead of this, however, the contract was not only not completed with the party offering at the lowest price; but it is alleged that the board of directors, without communicating with the English houses (whose proposals, it must be observed, had resulted from a special request), made use of their lowest offer to induce the agent of another party to reduce the amount of his tender, by 7s. 6d. per ton, thus bringing it 2s. 6d. below the 10*l.*, and upon this concluded an agreement. It is evident that, but for the offer at 10*l.*, the company would have had to pay 10*l.* 5s.; and it is probable they may congratulate themselves on their adroitness. The injury of the proceeding, however, (which it must be admitted was out of piece with the national character), must fall chiefly on the other German companies, since English ironmasters will not be likely for the future—at least, in the absence of efficient guarantees—to enter into any similar competition.—*Times.*

COST OF CONSTRUCTING RAILWAYS IN FRANCE.—The financial reports presented to the French Government by the engineers charged with the construction of the three sections of railway in the centre of France, give the following estimate of the expense:—The section between Vierzon and the confluence of the Allier and the Loire, the length of which is 32,194 met., will cost 5,600,000 fr.; or 173,945 fr. per kilometre. The section from Vierzon to Chateauroux, of the length of 59,691 metres, will cost 8,260,000 fr., being 138,379 fr., per kilometre. The section from Chateauroux to Limoges, the length of which is 76,419 metres, will cost 15,000,000 fr., or 196,286 fr. per kilometre. These three sections will, therefore, cost 28,860,000 fr., including the compensation for ground, works of art, guard-houses, &c.

Mining Correspondence.

ENGLISH MINES.

ALBERT CONSOLS.—During the past few days, the men at the clay work have been engaged in driving a shallow level, for the purpose of cutting water, whereby they have intersected our main lode, to the west of the former workings, being about 3 ft. wide, very rich for tin.—J. Chynoweth: Feb. 1.

BARRISTOWN.—The lode in the 23 fm. level, west of flat-rod shaft, is at present worth about 10*l.* per fm.; there is a slide over and under this end, both of which has cut off the lode. The 10 fm. level end west, is worth from 25*l.* to 30*l.* per fm. The 12 fm. end west, is worth about 20*l.* per fm.; and the back behind this end for 5 fms. in length is worth over 20*l.* per fm. The 28 fm. level west, under the 18 fm. level, is without alteration; the cross-cut south from this level, at flat-rod shaft, is in very favourable ground, but we have not yet intersected the lode; a winze sinking under the 12 fm. level has cut a part of the lode, more south than what we have before seen—it looks well. We have not been successful in getting a vessel to take a cargo of lead up to the present time—in fact, no vessel will come into the bay till the weather moderates. Nothing new in any other part of the mine.—T. Angove: Jan. 28.

BEDFORD UNITED.—At Wheal Marquis, the lode in the 80 fm. level east is 2 feet wide, and worth 23*l.* per fm., very promising. In the 70 fm. level east the lode is 2½ ft. wide, good saving work. The lode in the 58 fm. level east is small, but altogether more promising than for some weeks past; Crew's rise, in this level, is stopped, and the ground set on tribute. At Wheal Tavistock, the lode in the 47 fm. level west is 18 in. wide, spar, mundic, and ore; this level east is stopped, and the men put to sink a winze therein, the lode is 2½ ft. wide, composed of spar, mundic, and ore, a little saving work. The lode in the 35 fm. level east is 15 in. wide, producing good stones of ore; the south engine-shaft is 24 fms. 5 ft. 6 in. under the surface; the south part of the lode is about 3 ft. wide, composed of fine gossan and spar, with good stones of grey ore, a very kindly lode; in the adit level east the lode is 2½ ft. wide, composed of spar, peach, prian, and spots of ore. We weighed, at Morwellham, on Friday last, November ores, 109 tons 9 cwts., and sampled December ores, computed 105 tons.—James Phillips: Feb. 2.

COOK'S KITCHEN.—In Chapple's lode the sumpmen have now about completed the plot at the 180 fm. level, and will commence putting in pent-house, and making a few other necessary preparations for sinking the engine-shaft under the said level immediately; in the 180 fm. level west the end is worth about 10*l.* per fm. In the winze, sinking under the 148 fm. level west, we are still on the flookan part of the lode, which produces but little tin, the main part being further south; in the 148 fm. level east the lode is worth from 8*l.* to 10*l.* per fm. In the 92 fm. level west, on Eudy's lode, the branch spoken of in last report as standing to the south of the level, is found, on further examination, to be small, but containing good stones of tin. In the 80 fm. level east, on North Tincroft lode, the end is still poor. The tribute department is looking well; and in the stopes, between the 160 and the 170 fm. level west, the tributers are breaking a large quantity of stuff, of very good quality. Our next sale of tin on Saturday, the 6th inst., the produce of three weeks, will be from 18 to 20 tons.—Joseph Vivian: Feb. 1.

CUBERT SILVER-LEAD.—We have about 1 ft. more to sink below the 35 fm. level to complete for bearers and cistern, and have already sunk 5 ft. 6 in. In the 25 fm. level, going east, the two lodes (Trebiskin and middle lodes) are nearly together; we are obliged to calculate both in one gunnis—altogether 4 ft. wide, some parts of which is good saving work, a very promising end; in the same level, going west, the Trebiskin lode is 2 ft. wide, a strong hard lode, chiefly spar and lead, saving work. In the 15 fm. level west the lode is 8 in. wide, and yielding some fair quality work; in the east, in that level, the gossan is 3 ft. wide, producing at present a great deal of mundic and stones of lead. We have, this day, held the public setting for February, and have set 12 pitches, varying from 2*l.* 5*s.* to 6*l.* per ton, employing 37 men on tribute, and 26 men on tutwork underground.—R. Rowe.

DEVON AND COURTNEY.—The ground in the engine-shaft is more favourable for sinking, having gone through the spar. The ground in the deep adit, on the south lode, is more favourable, now driving for 6*l.* per fm., lode 1 ft. wide, but poor. The ground in the adit, on the north lode, still continues favourable, lode 3 ft. wide, with lead in parts of it. The lode in the rise of this adit is poor, and I have put the men to stope down the eastern end, where the lode is 3 ft wide, producing about 4 cwts. of lead to the fathom. There is very little improvement in the shaft, on north lode, since my last, and we have now commenced cutting a cistern plot to fix a standing lift.—J. Job: Feb. 2.

EAST CROWNDALE.—In the past week we have taken up all the pitwork and other materials out of the old mine. The ground in the new engine-shaft is still favourable for sinking, which is down 28 fms. on the Rixhill lodes. We have not done much since my last report—the men having been employed in drawing the materials out of the old mine. We have not, as yet, cut the lead lode, on the eastern part of the sett, but expect to do so in the course of a week or 10 days. Our engine and pit work all in good order.—S. Paull: Feb. 2.

EAST TAMAR.—At Whitson, Hitchins's shaft is sunk 5 fms. 3 ft. below the 54 fm. level, ground a little more favourable for sinking; the lode, in the 54 fm. level north is 1 ft. wide, flookan, prian, and silver-lead ore; the lode in the 54 fm. level south is 18 in. wide, saving work. The lode in the 46 fm. level south is 20 in. wide, producing good stones of lead. At Furzehill, Harrison's shaft is sunk 6 fms. 3 ft. below the 38 fm. level, the lode is 2 ft. wide, a very kindly lode; the lode in the 38 fm. level north is 20 in. wide, fluor-spar and ore; the lode in the 38 fm. level south is 2 ft. wide, a very promising lode. Our stamps are working well with the 12 heads, and the axle is brought for the other part, so that we shall put 12 heads more to work as soon as possible. The walls of the crushing house are up, waiting to put the machinery in. We have shipped to-day the 40 tons of silver-lead ore which were sold to Messrs. Walker, Parker, and Co.—B. Robins: Feb. 2.

ECTON.—We had a breakage here on Friday last of the pump rods in the 150 fm. level, and one of a similar character about a fortnight since; but in both cases the damage was soon repaired, and which, moreover, did not incur any serious expense. We are drawing some good ore from the 30 fm. level; but do not intend dressing it until the bargain is out, which will be at the end of the month, when I hope we shall raise 20 tons of good ore. We have but two tribute pitches in working—one in the 30 fm. level by seven men, and one at the 150 fm. level by two men, both of which I am happy to say are looking favourable.—Abraham Thompson.—[Two parcels of copper ore, sold on Nov. 28th and Dec. 9th, produced 79*l.* 2*s.*]

GREAT WHEAL MARTHA.—The new engine-shaft is sunk 35 fms. 5 ft. below the adit level: should the ground continue favourable, we calculate on reaching the 40 fm. level, cutting ground for a forcing lift of pumps, and commencing cross-cutting to the lode, in two months from this time. At Sherrall's Bottoms, the opening at the foot of the hill is at present so near the surface, that scarcely anything but a confused conglomerated mass can be seen; this end, however, will be driven into firm ground in the course of the ensuing week, and we expect to be able to write fully on the character of the lode in our next report.—J. Prince; T. Penaluna: Jan. 30.

GUNNIS LAKE.—At Chilsworthy, Bailey's engine-shaft is 4 fms. 3 ft. 2 in. under the 12 fm. level—lodes without alteration. In the 12 fm. level east we have met with a cross-course, which is not yet cut through: there has been no lode taken down in the 12 fm. level west since last reported.—W. Richards: February 2.

HANSON.—In the 32 fm. level, east of the engine-shaft, on Stainsby's lode the lode is 8 in. wide, containing very little ore. The flat-rod shaft, and the bottoms stoping under the 22 fm. level, east of the engine-shaft, on Stainsby's lode, the lode is 16 in. wide, in a declining state—not near so good for ore as when I wrote last. The back of the 22 fm. level is also failed—not so good for ore as when I wrote my last report.—Z. Williams: Feb. 1.

HAWKMOOR.—The orey part of the lode in the 15 fm. level, east of Hitchins's shaft, is 15 in. wide—good work; we have discontinued carrying the north part of the lode, about 2 ft. wide, chiefly capel, and unproductive.—P. Richards: Feb. 2.

HOLMBUSH.—The shaftmen commenced sinking the diagonal shaft, below the 120 fm. level, on the course of the lode, as stated in my last report; we are carrying the shaft 12 ft. long, and 6 ft. wide, as the lode is split in branches, in order to see as much of the lode as possible in sinking; within the 6 ft. we have four or five branches, varying in size from 2 to 6 in. wide, each of them containing some very good ore, mundic, and spar; each of these branches are underlaying south at a moderate rate, being quite opposite to what the lode underlied above this level, but should these branches resume their former position in taking a north underlay, and form a junction, we have no doubt the lode at that point will be found productive—we shall, therefore, lose no time in sinking this shaft, in order to prove it. There has been no lode taken down in the 120 fm. level, west of the great cross-course, during the week. The lode in the rise, above the 110 fm. level, is 8 in. wide, producing stones of ore; we expect to make the communication here to the tribute pitch that wrought below the 100 fm. level this week; after this is effected, we shall increase the number of men to drive the 110 fm. level south on the lead lode—at present we are prevented for want of air; the lode in this end is 2 ft. wide, composed of flookan, spar, prian, and stones of lead; the lode in the winze, sinking below the 110 fm. level, between the great cross-course and the slide, is 8 in. wide, producing stones of ore, but the lode is also in a disordered state, by means of so many small cross-courses; this winze is sunk 8 fms. below the 110 fm. level. The lode in the 100 fm. level south is 3 ft. wide, composed of flookan, spar, prian, and occasionally stones of lead; the ground in this end is very favourable for exploring, being set at 2*l.* 5*s.* per fm. We weighed at Calstock quay, on Friday last, Dec. ores, 27 tons 9 cwts., and sampled Jan. ores, computed 30 tons.—W. Lean: Feb. 2.

WHEAL AGNES.—The lode in the adit level is very much improved since last report—it is 3 ft. wide, producing fine stones of lead.—B. Robins: Feb. 2.

KIRKCUDBRIGHTSHIRE.—Having cut the winze, plat, and other ground necessary to sinking Stewart's shaft, I can only add we have just commenced sinking; the lode appears to open wider south, with a fine mixture of lead, worth 15*l.* per fm.; these men, however, are now engaged clearing down and timbering the shaft, and assisting to fix the railroad, which I expect will be completed by the middle of next week; the lode in the end, driving west of the above shaft, in the 30 fm. level, is 6 ft. wide, worth 20*l.* per fm.; the lode in the end east, in the same level, is not so rich as last reported, worth now 10*l.* per fm. The end extending east in the 20 fm. level is much the same as last reported; the same may be said of the winze sinking under this level, and other places in operation.—J. Buzzo: Jan. 30.

LAMHEROOE WHEAL MARIA.—I beg to lay before you the depths of our shafts.—Hay's engine shaft is 27 fms. 3 ft. 4 in.; Davey's shaft is 19 fms. 1 ft. 6 in. In Davey's shaft, we have cut plat, and put in penthouse this past month; by cutting plat it will be a saving of 9*l.* per month in drawing and landing. In this shaft the men at present are engaged in cutting ground for cistern and bearers, which will take them a fortnight to accomplish. Our water being so great, and falling so heavy on the men, it is almost impossible for them to sink without much difficulty, and to a very great disadvantage. After we have fixed our pit-work, and taken the water in cistern, we shall explore the ground with greater facility. At Hay's shaft, I intend, when at the 30 fm. level, to cut plat, which will make a saving equal to that of Davey's shaft. We are opening ground on the surface between the D and E lodes, to intersect a south underlying lode, lately discovered in Wheal Fortescue—it is a strong champion lode, of a highly promising character, and I should say of from 5 to 6 ft. wide; I have taken out four men from Hay's shaft, and shall, in future, sink with eight men instead of 12.—J. Tann: Feb. 4.

LEWIS.—The lode in the 60 east is 2 ft. wide, much the same as when last reported; the lode in the 60 west is 2½ ft. wide, producing some tin, and promising. The lode in the 50 end east is 2 ft. wide, worth 5*l.* per fm. for tin, much disordered by a cross branch; the lode we cut in driving south, at the 50, west of Nutt sump whim-shaft, is still improving, as we extend west, worth 10*l.* per fm. for tin; the back over the 50, east of copper ore shaft, 10 fms. long, we have set at 8*d.* in the 1*l.*, for saving the tin; the back over the 50, west of tin shaft, 10 fms. in length, is set at 1*s.* 4*d.* in the 1*l.* for saving the tin; then we have about 12 fms. of good tin ground in reserve between these last two pitches referred to, which will work at a low tribute. The back over the 40, east of tin shaft, is set at ½*d.* in the 1*l.*, for saving the tin. The 40 and 30 ends east are very promising. Next Wednesday I intend to write you, in order to give a more particular account respecting the 60 east, and the south branch, in the winze, sinking under the 40 fm. level.—S. S. Noell: Jan. 30.

LOSTWITHIEL CONSOLS.—The level in the south hill is driven 17 fms., and the cross-course continues small. We have just intersected a second east and west lode, full 4 ft. wide, composed of felspar, gossan, and large spots of yellow ore, with occasional particles of malleable copper—probably equal to any lode in the sett; it is about 4 fms. from grass. This lode is about 12 fms. south of the former lode intersected in this shallow adit; and, consequently, about 22 fms. from the Milham lode, on which our engine-shaft is being sunk. It underlays north—that is, towards the shaft, about 2½ ft. per fm. Thus, there are three lodes within the space of 23 fms., each underlying towards the shaft. A cross-cut, extended from the engine-shaft, at the 30 fm. level, would probably intersect this lode at 36 fms., or more, in depth, owing to the rise of the hill. I will send you a few stones from the lode for the inspection of the adventurers.—John Offord: Feb. 4.

MENDIP HILLS.—During the past week a little improvement has taken place in Stainsby's shaft; the ground is, I think a shade softer, and has a more favourable appearance, having a number of small branches, composed of quartz and flookan, dipping towards the lode—this shaft is sunk 13 fms. 4 ft. below the 38 fm. level. The lode in the 38 fm. level, driving south, is about 8 ft. wide, the appearance of which continues much the same, composed of quartz, flookan, and limestone, with particles of lead at times—the ground is easy for driving, and tolerable progress is being made. In the slag department we continue to get on very well with the trench opened about 20 fms. in length, the deepest part being 14 ft.; we are at present cutting through a very good bed of slags about 8 ft. thick.——*4th.*—In the slag department, it affords me pleasure to inform you, we are at present cutting through a bed of slags 9 ft. thick (further down the valley than I expected), with about 6 ft. of rubbish on the top of it; this trench, I am now opening, is about 14 ft. wide on the top, and draws narrower as we get to the bottom. I intend going on in the same manner we now are, about 12 fms. further up the valley—then, should the slags continue, open it the whole breadth of the valley, first removing a portion of the rubbish in the place where the last bed of slags lays, taking care it is always cleared to the bottom, because I think the bottom is the best—this is the best plan I can adopt: by removing all the stuff, and keeping a trench continually for the discharge of water, we shall be sure to have all the slags.—F. C. Harpur.

NORTH WHEAL ABRAHAM.—The shallow adit level, on James's lode, is extended 5 fms. west of the old men's cross-cut; the present company have driven 4 fms. of it, which has produced nearly 4 tons of copper ore, and worth 7*l.* per ton; the present end will produce 1 ton per fm., of the same quality; it is proposed to sink a new shaft from the surface, 20 fms. west of the present end, and to clear the deep adit, which will be effected in a fortnight, and be 7 fms. deeper than present adit.—Jan. 5.——In the adit level, driving west on James's lode, the lode is split; the north part is 6 in. wide, producing a small quantity of copper ore and gossan; the lode, in the bottom of the adit level, for several fathoms driving, is from a foot to 18 in. wide, producing rich stones of copper ore and gossan—a very kindly lode indeed. The new shaft is sunk about 7 fms. from the surface—the lode is come in the shaft; lode 15 in. wide, gossan, and a small quantity of copper ore, a very kindly lode. According to the appearance of the lode in the new shaft, we expect to have a good lode in two or three fathoms sinking more. James's lode is about 20 fms. to the south of the middle lode, and water lode is about 20 fms. north of said lode, looking at the length of gossan discovered in the middle lode, we think it is likely to be the most productive lode.—W. Blewett.

SILVER VALLEY.—The ground in the engine-shaft, sinking below the 40 fm. level, is without any important alteration. The silver lode in the 30 fm. level, driving east, is small, containing some quartz, spotted with lead; in the stopes, in the back of this level, the lode is 3 ft. wide, much improved in appearance in the past week, and producing some stones, rich in lead and grey silver ore; the lode in the stopes, in the bottom and in the back of this level west, is about 15 in. wide, containing a small proportion of silver, but at present it is not worth saving. In the 20 fm. level west the lode is still divided; the south branch is regular in its course, composed of flookan and carbonate of iron, spotted with lead; and the north branch, referred to in last report, is split into three parts, each containing a little lead, and is inclining towards the south branch; the country also (or horse) between the branches presents traces of lead—altogether it looks favourable. The lode in the 10 fm. level east is 2 ft. wide, composed of flookan, quartz, and mundic; at Callington Commons, in the adit level west, the lode is small in the back part of the end, but in the bottom it is 18 in. wide, chiefly flookan and carbonate of iron, with particles of lead occasionally.—S. Richards: Jan. 25.

SOUTH TAMAR UNITED.—We have cleared and secured in the adit level 230 fms. We are daily expecting the vessel with part of the engine—as we are informed, it is shipped for South Tamar United Mines.—B. Robins: Feb. 2.

SOUTH WHEAL MARIA.—Last Saturday being our setting-day, I beg to say, that there was 1 fm. 2 ft. 8 in. sunk in the shaft in the fortnight previous; the ground continues favourable for sinking, and have set again at 10*l.* 10*s.* per fm.—George Francis: Feb. 4.

SOUTH WHEAL TRELAWNEY.—The engine-shaft is sunk 9 fms. 5 ft. from the surface; the ground in which is as favourable as we could wish to see it—being a white killas strata; we think it will now stand without timber, and we shall be able to sink 6 feet per week, unless the water very much increases. We have again set the shaft to sink, with nine men, at 9*l.* per fm., and, had the ground been dry, we could sink it for 5*l.* 10*s.* per fm.; at present we are drawing the water with barrel, until we get our 7-inch lift prepared to fix in the shaft, and to draw the water, by fixing a crank on the top of the horse-whim (by horses), which will effect a great saving, and render us full speed in sinking, which is a very desirable object, to intersect the lode at a greater depth than has hitherto been seen. Soby's lode, in the adit level south, is 2½ ft. wide, composed of gossan, mundic, and white soft killas, in which is often found sprigs of lead; the direction and underlie is just as usual. We have driven this level, the last month, 5 fms. 2 ft. 10 in., and it is again set to four men, to drive at 4*l.* per fm.—W. Lean: Jan. 30.

STRAY PARK AND CAMBORNE VEAN.—In the 60 end, driving west on the south lode, the lode is 14 in. wide, yielding 2 tons of good ore to a fm. In the rise, above the back of the 70 fm. level, the lode is 2 ft. wide, yielding 3 tons of good ore to a fm. In the 70 end, driving west on the south lode, the lode is 8 in. wide, yielding good stones of ore. In the 80 end, driving west on the south lode, the lode is 18 in. wide, yielding 2 tons of good ore to a fm. In the 90 end, driving west on the south lode, the lode is 18 in. wide, yielding 2 tons of good ore to a fm.; in the rise above the 90 fm. level, on the south lode, the lode is 15 in. wide, yielding 2 tons of ore to a fm. In the 100 end, driving west on the south lode, the lode is 2 ft. wide, yielding 2½ tons of ore to a fm. In the 110 fm. level, driving west on the south lode, the lode is 4 ft. wide, yielding 5 tons of ore to a fm.; in the winze, sinking below the 110 fm. level, on the south lode, the lode is 2 ft. wide, yielding 3 tons of ore to a fm. In the 120 end, driving west on the south lode, the lode is 1 ft. wide, yielding 1¼ ton of ore to a fm. In the 124 end, driving west on Stray Park old lode, the lode is 1 ft. wide, yielding 1 ton of good ore to a fm. In the winze, sinking below the 130 fm. level, the lode is 1 ft. wide; and the lode in the winze is gone down on it to the north of the lode, in the 150 fm. level, 6 or 8 ft., and they are driving south, in order to hole; and the lode in the back of the 150 fm. level is 2 ft. wide, yielding 2½ tons of ore to a fm.; in the 150 end, driving east on the south lode, the lode is 3 ft. wide, yielding 3 tons of ore to a fm.; in the 150 end, driving west on the south lode, the lode is 1 ft. wide, yielding 1 ton of ore to a fm. In the 160 end, driving east on the south lode, the lode is small, producing stones of ore. The tribute ground is looking very well—I never saw it looking better, and all our works are going on progressively.—R. Eustice: Jan. 30.

TAMAR SILVER-LEAD.—In the 160 fm. level, south of the shaft, the lode is 1 ft. wide, composed of capel and mundic; in the same level north the lode is 4 in. wide, rich work for silver-lead ore. In the 145 fm. level south the lode is 18 in. wide, composed of capel and ore; in the same level north the lode is 9 in. wide, good saving work. In the 135 fm. level the lode is 2 ft. wide, composed of can and ore, looking very promising. The 125 end is greatly improved, the lode is 18 in. wide—1 ft. of which is almost solid ore. At the north mine, the lode in the 70 fm. level, north of the shaft, is 2½ ft. wide, composed of horn, spar, and capel. In the 60 fm. level the lode is 18 in. wide, saving work. We hope to sample, on Thursday, the 4th inst., about 105 tons of rich silver-lead ores.—J. Sprague: Feb. 1.

TINCROFT.—The lode in the 100 fm. level end, east of new engine-shaft, is 18 in. wide, producing but a small quantity of ore; the west end, same level, is unproductive, being disordered by cross branches. The lode in the 90 end east is 20 in. wide, producing some good quality ore, and kindly; the 90 west is at present unproductive. The 80 east is producing some tinstuff; the lode in the 80 west is 2½ ft. wide, orey throughout, worth 30*l.* per fm., leaving good back and bottom. The 70, 60, and 50 west, are producing ore, and laying open ground that will work at about half tribute; the pitches in this part of the mine are, on the whole, looking pretty well. At Palmer's, we are filled with water to the 48 fm. level, in consequence of East Pool engine being left idle; and our pitwork not being large enough to keep the water from that mine, in addition to our own, we continue to drive the East Crofty adit on a caunter lode towards our new shaft, and are daily expecting to meet with a lode leading more directly towards the said shaft. In the south mine, Chapple's lode, in the winze, sinking below the 90, continues to look well, worth about 15*l.* per fm.; the rise, in the back of the 100, going up against the winze alluded to, is producing some ore, and kindly. Highburrow lode, in the 152 west, is 2½ ft. wide, worth about 20*l.* per fm.; our sumpmen are still preparing to fix lift, &c. The lode in the 142 east is 5 ft. wide—1 ft. on the north side good work for tin, worth 20*l.* per fm.; we are leaving a part of the lode standing to the south in which there is a good branch of tin, which will be taken down to advantage, after we have past by it for some distance; the lode in the winze, sinking below the 120, is very large, producing some tin, and very promising; the lode in the 120 end east is 4 ft. wide, worth 12*l.* per fm. for tin; by driving a cross-cut south, in the 110, we have cut a good branch of tin, worth 15*l.* per fm.; we intend to drive on this branch for some distance, and then drive further south, as we are inclined to think there is more lodes very near; our pitches, in this part of the mine, continue to produce fair quality tinstuff. At Wheal Providence, we are getting on as well as can be expected under all circumstances, but the ground is bad and very expensive to get through.—William Paul: Feb. 1.

TRELEIGH CONSOLS.—At Christoe's shaft, below the 100, there is a contract to sink to 110 fm. level in the country; the rise, above the 100 east (new), I think is worth about 10*l.* per fm.—you shall know more of this in next report; in the 100, west of Christoe's, the branch is small, without mineral; in the winze, below the 90 east, the lode is 4½ ft. wide, worth about 10*l.* per fm. Garden's shaft, below the 90, is sinking in the country; in the rise, above the 90 west, the lode is 2 ft. wide, producing good stones of ore. In the winze, below the 80 west, the lode is 3 ft. wide, producing a small quantity of ore; in the 80, west of Garden's (new), the lode is 18 in. wide, with stones of ore—this will be driven over the pitch, now working at 1*s.* 3*d.* in the 1*l.* In the 70, west of ditto, the lode is 14 in. wide, with stones of ore; in the 70, west of Good Fortune, the lode is 4 ft. wide, worth about 12*l.* per fm. In the 44, west of Symons's, the lode is about 3 ft. wide, worth 3*l.* per fm. At Symons's shaft, below the 60 (new), we cannot ascertain its value until we commence sinking, which we hope to do by the next report. In the 20, west of ditto, the lode is 18 in. wide, the north part producing some good ore, worth 4*l.* per fm. The 100, east of Christoe's, is suspended for the present, in order to rise against the winze from the 90 fm. level; the 90, west of Garden's, is suspended for the present, for the purpose of rising and expediting a communication with the 80. The 80, west of ditto, is suspended for the present—sinking on the above rise for the same purpose. The 60, west of Symons's, is suspended for the present, in order to sink Symons's shaft to the 70 fathom level. The 50 west, on the north lode, is suspended for the present—these men are put in the said shaft; the adit cross-cut south is holed.—W. Symons: Jan. 29.

TRELOWARREN.—My father and Capt. Lawry, of Wheal Ackland, have inspected this mine for Mr. Edward Michell; they saw both winzes, the lode is 2 ft. wide, composed of blue flookan, sugary spar, mundic, jack, with good stones of lead ore throughout; the strata is highly approved of for a lead lode, being a soft blue killas, with an immense body of blue flookan surrounding the lode. Capts. C. and Lawry say they never saw a prettier lode at the depth; and have no doubt that, if an engine is erected on this lode, large quantities of lead ore will be raised, and good profits realised. Our operations at present being so limited, you will excuse my not giving a more lengthened report. The returns of Newquay and Varcoes Mines and Crown Lands have been from 15,000*l.* to 20,000*l.*—the distance of these mines and Trelowarren from Wheal Rose is about 3½ miles, in the exact direction of East Wheal Rose north and south lode, from which all their returns are made.—T. B. Champion.

UNITED HILLS.—In the 90 fm. level there has been very little done during the past week, in consequence of the water being in, by reason of the connecting-rod breaking; we expect to get the water in fork by to-morrow morning. In the 80 fm. level, driving east of Williams's lode, the lode is 8 ft. wide, worth 16*l.* per ton; west of cross-cut the lode is 14 in. wide, worth 15*l.* per fm. In the 70 fm. level, eastern end, the lode is 3 ft. wide, worth 20*l.* per fm. In the fm.; in the eastern shaft the lode is 3 ft. wide, worth 8*l.* per 60 fm. level no tutwork; one pitch at 9*s.*; tribute is suspended in consequence of the water. In the 50 fm. level no tutwork; shallow adit, lode 3 ft. wide, worth 4*l.* per fm.; at Wheal Charles, in the 50 fm. level, the lode is 2½ ft. wide, producing but little ore. In the 40 fm. level, eastern end, the lode is 3 ft. wide, worth 12*l.* per fm.; in the winze the lode is 6 ft. wide, worth 20*l.* per fm.; in the stopes the lode is 3½ ft. wide, worth 10*l.* per fm.; at Wheal Sparrow, in the 40 fm. level, the lode is 2 ft. wide, worth 5*l.* per fm.; east of Turner's shaft the lode is 3 ft. wide, unproductive. In the 30 fm. level the lode is 3½ ft. wide, worth 6*l.* per fm. In the 20 fm. level no tutwork.—Thos. Trevenen; Robert Williams: Feb. 2.

VICTORIA TIN.—The engine-shaft is down 7 fms.; in consequence of cutting a branch in the shaft, it has retarded our progress in sinking, but I hope on Saturday that our engine will be set to work, by aid of which I expect we shall resume our former expeditions in sinking. The ground in the shaft continues favourable, being a beautiful decomposed granite, regularly into a channel of tin ground; and, from the present appearances, large returns of tin may be expected from the 12 fm. level. I hope next week to report more fully on the surface operations, being there nearly completed for the present.—James Chynoweth: Feb. 3.——I am very much pleased to inform you, that we have made considerable progress during the past week. The engine-shaft is down 7 fms; the water-wheel is nearly finished; and, without any unforseen occurrence, will be set to work on the 8th inst. The houses and shops are up, and covered in, and the road leading into the mines completed. We have now on the mines sufficient timber. I hope to put us down the 10 fms., when we expect to cut a rich lode. Our ground is of the same nature as when we first commenced sinking, being a beautiful decomposed granite, highly congenial for tin. In the adjoining sett, Wheal Albert Consols, the clay workmen have have cut a very rich lode of tin, being about 3 ft. wide, worth about 5 cwts. of tin per 100 sacks.—Thomas Julian: Feb. 3.

WEST WHEAL JEWEL.—In the 115 fm. level, east of cross-cut, on Wheal Jewel lode, the lode is 20 in. wide, worth 3*l.* per fm. In the winze, in the bottom of the 85, west of cross-cut, on the same lode, we shall not be able to take down for two or three weeks, in consequence of letting down the water. In the 85 fm. level, west of Williams's cross-cut, on south lode, the lode is very small and unproductive. In the 70 fm. level, west of Williams's cross-course, on Wheal Jewel lode, the lode is 18 in. wide, worth 7*l.* per fm. In the 12 fm. level, west of Quarry shaft, on Tolcarne tin lode, the lode is 20 in. wide, worth 20*l.* per fm.; in the winzes, in the bottom of this level, the lode is 2 ft. wide, worth 15*l.* per fm.; the stopes in the back of this level are worth 25*l.* per fm. In the winze, east of Quarry shaft, in the bottom of this level, the lode is 1½ ft. wide, worth 7*l.* per fm. In the 12 fm., west of old sump shaft, the lode is heaved by a cross-course; we hope to see it again by the end of this week.—B. Johns: Feb. 1.

WEST WHEAL MARIA.—The ground in the eastern engine-shaft is still hard for sinking; the lode in this shaft is much the same as last reported, about 5 ft. wide, producing spots of ore in places. At the western engine-shaft we have cleared up the stuff, and got to the bottom of the mine; the sumpmen are employed putting in footway and taking up water in different parts of the shaft.—T. Rodda: Feb. 2.

WHEAL ADAMS.—The 50 fm. level, driving south on the western silver-lead lode, is a little improved this last week, the lode is 8 ft. wide, worth 12*l.* per fm.; the stopes in the back of the 50 fm. level, on the eastern lead lode, stoping north and south of the rise that we have holed to the 40 fm. level, is very much the same as last reported; the lode is 18 in. wide, worth about 12*l.* per fm. In the 40 fm. level, on the western silver-lead lode, driving north, the lode is 8 ft. wide, composed of brown jack, not so good for lead as last reported, worth about 5*l.* per fm. The cross-cut driving west, in the 28 fm. level, is still in the elvan. The tribute department is looking very much the same as last reported; since last report the tributers that we have sinking the shaft in the lower Orchard, have sunk about 6 fms. from the surface, and have cut a very kindly lode, with lead and jack in it; I think this to be a very important thing to the mine, seeing that we have a long piece of ground to the north, and nothing done in it; there is nothing done below where they cut this lode at the surface. We have now down at the cellars about 40 tons of lead ores;

if the weather proves favourable this week, I think we shall be able to get 30 tons down for sampling; our floors are still full of lead ores, that we do not know where to put it. I think that we have still at the surface and underground broke about 60 tons of lead, besides that at the collars.—T. Moyle.

WHEAL BENNY.—The depth of the shaft I find to be 13 fms. from surface, and it has intersected the lode at 11½ fms. deep; the lode at this point is in a very disordered state, or rather it is not yet in a settled state; if this shaft be sunk perpendicularly, it will take the Benny lode at about 70 fms. deep; but as the present wheel is not of sufficient power to go to that depth, if you intend to confine your future operations to the development of your two north lodes (one of which is the lode intersected in the present shaft, and the other is still more northerly); it would be desirable, I think, to sink the present shaft upon the lode, and if the north lode reported by the agent to be worth 20*l.* per fathom, should not form a junction in depth with the new one intersected in the shaft, the cross-cut will not be very long; for the purpose of facilitating the sinking of the shaft, it would be necessary to fix the lift at the bottom of the perpendicular; I should prefer a plunger lift, as being in every respect better, but it would, I think, be a dangerous plan, to fix it so near the bottom of the pit; I would, therefore, recommend that the present lift be fixed at the present bottom to take the whole of the water now flowing from the lode: should advise to have a bucket door on the top of the working, to change buckets; you will then have less water in sinking to contend with, and will of course be able to sink the cheaper and faster; the general appearance is of a highly promising character, and I think may be expected to prove productive in depth; the situation of the present shaft is well adapted for the development of this lode (Benny lode), and will, as I have before stated, intersect it about the depth of 70 fms.; and, provided your machinery is sufficient power, it would, I think, be desirable to do this. The south lode, judging from the stones to be found in the burrow, is also of a kindly character; but the pit, which was sunk upon it, having been filled up or covered, I have no other means of judging of it. The lode between the Benny lode and south lode is about 2½ ft. wide, and has a regularly defined appearance. The cross-cut, driven south upon the cross-course from Benny lode, will, I have no doubt, intersect the middle lode; should it continue its present underlay, judging it to be about 5 ft. in a fm., will be about 20 fms., and at the depth of 45 fms. I would, therefore, recommend you to continue this cross-cut to this point. On the whole, considering the appearances of the lodes already laid open, I believe the sett a valuable one, and such as to justify a large outlay; and, if vigorously and economically worked, will, I hope, amply repay the shareholders for their capital embarked.—John Tabb.

WHEAL BLENCOWE.—Since we recommenced with our underground operations, in driving the north end on the course of the lode, from which we have broken all the tin, nearly 3000*l.* worth, since the commencement of the mine, we have unexpectedly cut an east and west lode, which will average about 10 in. wide, and is productive of excellent work: I do not hesitate to affirm that it is worth 5 cwts. of tin per 100 sacks, and the tin is of a superior quality; the best judge of tin can scarcely perceive a single particle of mundic, jack, or iron, which is frequently intermixed with tin, and which lessens its value; the ground around the lode is very favourable, we can drive, whilst in its present state, 6 or 7 fms. per month. We know of another east and west lode still further north, which was discovered by the old men, and from which, judging from the workings, a great deal of tin has been returned; this lode is about 15 fms. from the one we have so recently cut, and we therefore shall soon intersect it, so that in the course of a little while, instead of having one lode to work upon, we shall have three. I am sorry, however, to add, that our operations will be much interfered with for a fortnight or three weeks, in consequence of an accident which we had on Sunday night, which is to be attributed to the great flood of rain which then fell; the ground on the north side of the wheel-pit became so saturated in the water, that a slide took place, and broke in the masonry on that side, which, of course, has caused a temporary suspension of underground operations—the utmost exertions, however, are being made to set all right again.—John Dale: Jan. 28.

WHEAL CONCORD.—I hasten to inform you that some very important improvements have taken place in this mine. The lode in the 38 west is now 3 ft. wide, soft spar, carbonate of iron, decomposed slate, and stones of lead—more promising than I have ever seen it before. In the 28 west the lode is 3½ ft. wide, with fine lead disseminated through it, the whole of which will be saved and dressed; we are also raising some lead from the back of the 20, and the lode has improved; the other parts of the mine are without alteration. The pile of dressed lead is now computed 12 tons. These discoveries westward have very materially enhanced the intrinsic value of the concern.—J. B. Clymo: Feb. 3.

WHEAL CURTIS.—The new engine-shaft is sunk about 180 fms. to the west of the old engine-shaft, but more to the south, so that it lies nearer to the Charlotte lode, in order that the engine may work this as well as the Curtis lode at the same time. Capt. Teague, although a celebrated miner, decidedly made a great mistake in not having sunk his shaft in this position; for, had he done so, he would have secured the advantage of working those two mines at once. His mistake is, however, our gain, for we can make use of his shaft and workings by flat-rods from our new engine-shaft; and, in this manner, work three shafts by the same engine. The Charlotte lode crosses the boundary of the sett, or land, belonging to Wheal Curtis, and its continuation was the celebrated Wheal Strawberry; and as the Curtis lode has produced better ore at shallow levels than the Wheal Abraham, there undoubtedly is a vast treasure at hand. The engine-house is finished in a substantial and workmanlike manner; the wall, which supports the arm of the engine, is 5 ft. 6 in. thick, and built of granite stones—laid on regular courses, and well bonded; the slates of the roof are pointed with lime; the out-offices, workshops, storerards, &c., are all completed and well arranged—these buildings are slated and ridged with red tiles. The new engine-shaft is 18 ft. by 7 ft., and is already sunk 10 fms. below the adit; the shaft of the Charlotte lode is 9 ft. by 4 ft., and sunk to the adit. Eight shafts have been opened along the line of both lodes, and much work has been done, which was not included in the estimates—which is, nevertheless, not exceeded. The lodes of the Wheal Curtis are not parallel—four of them cross each-other, making several intersections—two of which, being near the engine, will admit of the whole four lodes being worked at the same time; in fact, every prospect of advantage, as far as the convenience and facility of working, seems realised, which, with the rich appearance of the ore, gives an assurance that this is a most valuable property. The engine is even better than stated in the report before she was taken down; there are parts which could not be surveyed so well as when separated. The cylinder is 70 inches in diameter. A plan of the lodes is being prepared, in order that the advantages I have referred to may be more plainly perceived.—J. Chase: Jan. 27.

WHEAL LOUISA.—Since my last report, we have got to the wall of the lode, which is boring out a large stream of water, and also bringing away soft flookan, intermixed with lead, showing that we have a fine lode just before us; but, in consequence of the softness of the ground through which we have driven during the past week, we are obliged to discontinue opening the lode, and go back and timber and secure the level for several fms., consequently it will take us 8 or 10 days before we can venture to open the lode, being now close breasted up: we have also cut a rich branch of lead, running parallel with the lode about 3 ft., part of which I will get assayed this week, and send you the produce. I am much pleased to say, that our prospects are great, and there shall be no time lost in opening the lode.—J. Chynoweth: Feb. 3.

WHEAL MARY PENTUAN.—We are driving into the hill, for the purpose of cutting the whole of the lodes, being in 27 fms. Our present appearances are much the same as last reported.—J. Chynoweth: Feb. 3.

WHEAL TRELAWNEY.—The lode in the 42 fm. level, north of Phillips's shaft, is 4 ft. wide, worth 20*l.* per fm.; the lode in the 42 fm. level, south of Phillips's shaft, is 12 in. wide, worth 12*l.* per fm. The lode in the 32 fm. level north of Phillips's shaft, is 2½ ft. wide, worth 22*l.* per fm.; the lode in the 32 fm. level, south of Phillips's shaft, is 18 in. wide, worth 15*l.* per fm. All the stopes are looking well. Trelawney shaft is now 1 fm. 2 ft. below the 22 fm. level.—Henry Vivian.

WHEAL WALTER.—I beg to inform you, that in the 20 fm. level east the lode is 4 ft. wide, composed of killas, spar, mundic, and spots of copper ore, accompanied by two walls. In the 20 fm. level west the lode is 2 ft. wide—spar and mundic, also with two walls, and ground harder. I have suspended the 30 fm. cross-cut south, and assumed driving east in this level by two men. Having extended the adit level on B lode as far west as the cross-course, I purpose, on Saturday next, to set a winze to sink below the adit in the most kindly part of this lode, which will, I hope, prove productive in depth.—James Opie: Feb. 3.

WHEAL YENNADON.—The adit has been driven upwards of 60 fms., and is now very near the lode, which it will intersect at about 11 fms. deep. The lode at the surface is upwards of 12 ft. wide, and appears to have been wrought on by the ancients for about 12 ft. deep, where some fine rocks of tinstuff have been found. Within the last month two men have been employed clearing away the deads from the back of the lode, and also blasting some of the lode away, where they have discovered some good leaders or branches of tin running through it, and there is every appearance of its continuing in depth—the lode at the point mentioned (12 ft. under the surface) is worth from 10*l.* to 15*l.* per fathom.—R. Williams, Jun.: *Plympton, Jan.* 29.

FOREIGN MINES.

IMPERIAL BRAZILIAN MINES.—*Gongo Soco, Dec.* 3.—The rains have afforded sufficient power for draining the mine; all the pumps and machinery below the 62 fm. level have been taken out of Vesey's shaft, and we are preparing to remove those between that level and the adit. The heavy rains have slightly injured our water-courses, but the damage is very trivial. A few hat-caps of rather inferior work, for the washing-house, have been obtained from the level in course of extension eastward from the new shaft, south of Pengilly's, and we are preparing to reach it from Blamey's shaft, at the shallow level. I regret that the other parts of the mine present nothing worthy of remark.—W. J. Hexwood.

NATIONAL BRAZILIAN MINES.—*Cocaes, Nov.* 29.—We commenced the eastern end very near the south, or head, wall, merely for convenience, and have driven it, crossing the floors, in a northerly direction, and have reached the auriferous line of ground near the head wall (on which the end will now be driven). We took two samples from it, and pounded them in a mortar; and, we are glad to say, they are both very rich; this is a most favourable circumstance, as could possibly occur regarding the future prospects of our mine.

Dec. 3.—The torrents of rain which have fallen have broken our water-course in eight places; our stamps have, consequently, been working slowly with the water between the cargos and the mine. We shall, doubtless, repair all by Saturday night. Notwithstanding, we are glad to say, there is a considerable improvement in the produce, which would otherwise have been still more. We are glad to inform you, that the lode, or most auriferous part, at Oxenford's stopes, is becoming larger, and the ore very rich.

Produce.—Nov. 13.—Cocaes					£3	0	2	5	
Dec. 3.—Ditto					5	2	6	28—£8	3	0	37
Nov. 17.—Cuiaba					£3	4	5	6	
„ 27.—Ditto					3	1	3	64—£6	6	0	70
Total								£15	1	1	35

ST. JOHN DEL REY MINES.—*Morro Velho, Nov.* 18.—Heads working during 18 days, 68·0. The supply of ore has been only middling, in consequence of handrances, which have been unavoidable. Capt. Treloar has suspended the western stopes in the United Mines, for the purpose of examining some ground, which will require to be secured, and the fixing of a stull in the middle of the United Mines, has also impeded the stoping there; the new hauling machine is getting on well—the rings are being fixed on the arms, pumps are preparing for the mine, and some immense launders are being made for the Cristaes Rego, near the head weir, for a very weak place.

Nov. 28.—Heads working 28 days, 67·2. The supply of ore has been middling, very little having been rejected; half a day's stamping has been lost, in consequence of repairing part of the Cristaes leat; and very fortunate this repair was not deferred one day longer, for the rains, since that day, would have prevented the people from working. In the mine department we shall be very glad when the new hauling machine is ready to draw from the Cachoeira; for the water there, since the setting in of the rains, is becoming too much for the horse-whims.—Received, 836 lbs. 3 ozs.

ALFRED CONSOLS MINING COMPANY.

A meeting of adventurers in this company was held, at the offices, George-yard, Lombard-street, on Friday, the 29th January.

Henry Noell, Esq., in the chair.

Reports from Capt. M. White and Capt. T. Richards having been read, a statement of the accounts was submitted, showing a balance against the mine of 987*l.* 1s. 3d. The December ore, now on the mine, is estimated at 500*l.*; and a sale of tinstuff, on Nov. 19, produced 20*l.* The accounts were allowed and passed, and a call of 1*l.* per share made. The future meetings are to be held on the last Wednesday in each alternate month.

The following are the reports read to the meeting:—

Alfred Consols Mine, Jan. 27.—As Friday next is the day appointed for the meeting of adventurers, I beg to give you every information in my power of the state of this mine at present, also of what we have done since your last meeting.—1. We have effected a communication with Wyld's shaft, which is 46 fms. east of Field's, or engine-shaft, which ventilates that level very well, and will enable us to prosecute the backs with more force than before.—2. We have sunk the 10 fm. sump, and opened the levels east and west about 4 fms. each way; in the 10 fm. level east we have a lode 5 ft. wide, with a much better appearance at present than it presented since we commenced driving; it is mixed with gossan, ore, mundic, and spar, with every indication of a speedy change for the better. The lode is this level west is 5 ft. wide, 4 ft. of which is a good course of ore, very much better than we expected from the appearance of the adit level over the same ground. We shall commence sinking the sump under the 10 fm. level early in the ensuing week. All the tribute pitches at the back of the aditare looking very well; better than ever before. The next sampling I expect we shall have from 180 to 200 tons, which sampling takes place the fourth Tuesday in February. The quantity of water is very small; it is about 10 gallons per minute, or one stroke in 4½ minutes for the engine. We have commenced heaving in the engine for the whim and crusher, and hope, by the end of February, or early in March, to have it completed for work. I am glad to say our prospects are very cheering; the mine never looked so well as at present.—M. White.

Wheal Prosper Mine, Jan. 27.—I beg to lay before you my report on this mine, and am pleased to find the appearances generally so cheering. Taking into consideration the little time since the engine-shaft was commenced to be sunk below the surface (in May last), a large quantity of work has been done, above and below ground. A 60 in. cylinder-engine is now working fast enough to drain all the water from the mine at the present depth (10 fms. below adit), which is only a stroke in four minutes, or 15 strokes per hour, being an unusually small quantity of water for such large lode; the water will, no doubt, increase as the levels are extended. The adit end is driven east about 45 fms., and communicated to Wyld's shaft; the lode about this place is disordered by a cross-course—but, from the mineral appearance of the country, as well as the cross-course, I do think that the lode, when intersected to the east of it, will resume its former productiveness. In extending the adit end east of the engine-shaft, the lode has been very productive for 38 fms. in length, varying in width and value, as might be expected from its depth (only 20 fms.); the least width may be called 4 ft., and in other parts as much as 20 ft. wide, having two well-defined walls to the lode, at its greatest size, which I consider a very good omen. There remains a large quantity of copper to be wrought, that is already driven through at the adit; and I do not hesitate to say, without exception, it is the most promising and productive lode I ever saw at the depth it has been wrought. The adit is extended west about 38 fms.; generally speaking, the lode is large, and of good appearance, having passed through good bunches of ore in driving the level, that will ultimately be wrought at fair tribute. The lode in the present adit end west is not so large as usual. The engine-shaft is sunk 10 fms. below the adit level. The 10 fm. level is extended east of shaft 4½ fms.—lode 3 to 4 ft. wide; and I consider the lode more orey, and of better appearance than since opened upon from the shaft; the lode in the adit over this was not near so productive as a few fathoms further east. The 10 fm. level is extended west about 5 fms., where there is a good orey lode being driven through, 18 in. wide, on the south part, very good quality, and fine stones of ore on the north part for 2½ ft. wide—this end is opening good tribute ground. In a few days the engine-shaft will be ready for sinking below the 10 fm. level, and, provided the levels in depth are only as productive as the adit, this mine will rapidly increase in samplings, and ultimately prove a lasting, as well as a very productive and profitable, mine. Be it remembered, that a mine cannot be opened in a day or two, but requires time, money, and prudence; and I do say, that, since you have commenced operations in Alfred Consols Mine, much credit is due for the manner in which the work has been done, and for your spirited outlay, in erecting suitable machinery for a lasting mine, which you will, ere long, feel the benefit of.—Thomas Richards.

HARROWBARROW CONSOLS MINING COMPANY.

A meeting of adventurers was held at Mr. Golding's Hotel, Callington, on Thursday, the 28th January.

John Peter, Jun., Esq., in the chair.

After the usual preliminaries, it was proposed by S. B. Sergeant, Esq., the purser, and seconded by Mr. W. Trehane—That this meeting be adjourned for three months (subject to the next proposition)—such adjourned meeting to be held on the mine, or such other place as the purser shall appoint, on the 29th day of April next, for the purpose of passing the accounts, and settling all outstanding claims on the mine, the propriety of resuming the works, and other general business.—It was also proposed by Mr. W. Trehane, and seconded by Capt. B. Cooke, that, as the purser will be in London in the ensuing week, he procure the consent of the Duchy, to the mine remaining idle for the next three months; and in case they object to it, then that the purser call a meeting immediately on his return from London, to communicate the result of his application to the Duchy.—Messrs. J. Peter and J. Mason were appointed to audit the accounts, preparatory to the next meeting.

[It appears that shareholders holding, collectively, 148 shares were present, and proxies for 134 shares were intrusted voluntarily to the purser—thus showing the high opinion they entertained of his integrity and general straightforwardness of character.

KILLALOE IMPERIAL SLATE COMPANY.

The annual meeting of the shareholders of this company was held at the Gresham Rooms, Basinghall-street, on Tuesday, the 26th Jan.

W. R. Collett, Esq., M.P., in the chair.

The Chairman addressed the meeting, and spoke of the difficulty with which the company had to contend in Ireland in the working of those quarries—a difficulty which he had on a former occasion spoken of, and which had been increased by the present unfortunate state of that country; but by the judicious management of Mr. Headech, their secretary, they had been enabled to weather the storm, and declare a dividend, though a small one. The concern was now working very well; and he had no doubt that, when the gloom in which almost every Irish speculation was at present shrouded had passed away, the slate quarries would yield a more satisfactory dividend to them all. They had erected mills, and supplied their labourers with meal at cost price, and had not, therefore, burdened the poor-house of that district; but he did not think many companies in Ireland could say as much; these expenses, entailed by the exigency of the times, of course, took from the present profit of the shareholders, but under all the circumstances, it was satisfactory that they can show a dividend. If the calamity, which had visited the country, had not occurred, they should have been able to show a very large profit. The hon. gentleman then alluded to the great demand for the slates of this company, which are in many parts of Ireland superseding the hitherto much-used Welsh produce; and had no doubt that, when the railways in the south of Ireland are in operation, the facility which would be afforded the transit of the produce of these stupendous works, would prove of great and increasing profit to the proprietors.

The report was then read by the Secretary (William Headech, Esq.), and unanimously adopted.

A number of resolutions having been carried, the Chairman again spoke of the exertions and judicious management of Mr. Headech, to whom he awarded a considerable portion of the credit, for the present favourable condition of the company; Mr. Collett concluded, by presenting to Mr. Headech a very handsome gift from the directors.—Votes of thanks were then passed to the chairman, the directors, and the secretary.

PENNANT MINING COMPANY.

A meeting was held at the offices of the company, Salisbury-street, Strand, on Tuesday, the 26th January,

J. C. Ridgway, Esq., in the chair.

The general business of the company having been transacted, the following highly-interesting report was submitted:—

REPORT.

The directors have much satisfaction in laying the accompanying statement of the position and prospects of the company before the shareholders. Some parties, who had signed the cost-book, having failed to pay the deposit within the prescribed time, the directors declared such shares forfeited, considering they promoted the interests of the shareholders by so doing. The directors have the satisfaction of stating, that they have succeeded in obtaining the reduction of 500*l.* from the amount payable to the lord of the manor, as a fine for the granting of the lease. There is a probability—indeed, almost to a certainty—of some revenue being derived from three sources quite unexpected, while the operations are progressing for the production of lead ore:—1. On the eastern side of the sett, on the surface, near letter F on map, a very extensive vein of umber has been discovered; it has been shown to several drysalters in London, who pronounce it extremely good, and, on analysis, is found to be composed of—water, 9·24; peroxide of manganese, 5·50; silica, 69·20; peroxide of iron, 11·00; alumina, 3·60; oxide of zinc, 1·44; bituminous matter and silver traces, 99·98; loss, ·02—making 100.——2. At the Llaithnant, the eastern side of the sett, there is a great deposit of iron pyrites, or mundic, which is perfectly free from arsenic, and, consequently, marketable in its present state. It has been analysed, and found to contain—sulphur, 35·329; iron, 36·896; silica, 21·250; alumina, 3·200; carbonaceous matter, 3·750; gold and silver traces. With respect to these two minerals, Mr. Mitchell (the assayer), in his communication, dated the 22d, says—"The first is a species of umber, remarkable for its fine quality and the richness of its colour—this article, I should presume, would find a ready market, being by far the finest brown I have seen. The second mineral is a remarkable iron pyrites; it is remarkable for two causes—1st, it contains carbonaceous matter; 2d, arsenic does not enter into its constitution. The fact of its containing carbonaceous matter allows us to draw an inference of considerable interest. It has been noticed, that many minerals, containing carbonaceous matter, are obtainable only in the neighbourhood of coal formations. I may instance Mushet's black-band ironstone, and the cross backet ironstone of the Lanarkshire coal-field. These minerals contain from 3·03 to 3·12 per cent. of carbonaceous matter; the company's (Pennant) pyrites contain rather more—viz.: 3·75 per cent. The inference, therefore, which can be naturally deduced from these data is, that the presence of coal somewhere in the neighbourhood is extremely probable; or why does carbonaceous matter appear in the ore? I will now briefly point to the use of this mineral. Iron pyrites is employed in considerable quantities in the manufacture of sulphuric acid (the oil of vitrol of commerce); but there is a well-founded objection to the use of acid made in this manner, for it always contains arsenic—a metal found in nearly all iron pyrites. In this sample of pyrites, however, there is not a trace of that poisonous substance—therefore, the objection to the use of pyrites, in the manufacture of sulphuric acid, falls to the ground, when a mineral free from arsenic can be obtained. The pyrites in question also yields a small proportion of silver. I may also state a fact, better known, perhaps, to practical miners than myself, that the appearance of iron pyrites, or mundic, is considered an excellent indication of mineral wealth existing in its neighbourhood.——3. In sinking an air-shaft in the western side of the Pennant mountain, a good description of Staffordshire ware clay was met with within 18 in. of the surface, and has continued as far as the works have proceeded, now several fathoms deep. Samples have been sent to Messrs. Copeland and Garrett, of London, and Messrs. Chamberlain, of Worcester, that their value may be fully tested. Mr. Mitchell, in reference to this clay, says—"It is remarkable for the very large amount of iron it contains, which ingredient unfits it for the manufacture of fine porcelain, although it seems to be well adapted for the rougher kinds of pottery." There is, likewise, a deposit of slate on the eastern side of the sett; but the quality has not yet been tried. The directors, however, propose to have the whole property minutely examined and tested, as soon as the weather becomes favourable for such purpose, and for making the necessary arrangements with respect to the umber, mundic, and clay. With reference to the more legitimate and original object, for which the shareholders are associated, the directors have likewise the gratification of stating the works progress satisfactorily—and that the bar in the adit, which extended so much further than was expected, and, consequently, retarded operations, has been passed through; and the captain, in a letter dated the 20th inst., has reported—"We have cut a dropper of the east and west lode in the adit level; it varies from 1 to 3 in. wide, making fine spar of 1 in. thick, and also a good deal of mundic in the killas. The country on both sides is bastard lime and slate stone; it must certainly be either the lode itself squeezed up in this very spot, or a dropper from the lode." A shaft is in course of being sunk considerably in advance of the adit, which will enable the works to be advanced with greater rapidity when they descend to the level of the adit, by working towards the adit, and also proceeding in the opposite direction towards No. 14 lode, which is supposed to be the great deposit of the country. Altogether, therefore, the directors feel assured the shareholders will be satisfied with their present position; and, if merely the working expenses be met by the disposal of what may be termed the refuse matter, it will place the Pennant Mining Company, with respect to all other mines, without example. The directors invite the personal inspection of the property by the shareholders, and all those who have visited the mines have returned perfectly satisfied in every particular. The directors consider it due to themselves to mention, that the utmost economy is exercised, so as to give impetus to the works, and that the only expenses, apart from the mining outlay, are those for the office, clerk, and contingent charges—the duties of the directors, as well as of the purser, being executed gratuitously. Several shareholders having communicated with the purser on the subject of a reduction of the number of shares, the directors, in conclusion, strongly recommend this point to the consideration of the proprietary generally. They are of opinion, that the position and prospects of the undertaking warrant such a course, and that its adoption would be beneficial to the shareholders. The directors, therefore, request you will, in the annexed form, testify your approval or disapprobation of such a measure—viz., the reduction from 6000 to 4000 shares, as the representative of the capital of the company.

The report was unanimously adopted, and thanks passed to the chairman.

WHEAL BENNY MINING COMPANY.

An adjourned meeting of adventurers was held at the offices of James Crofts, Esq., King-street, Cheapside, on Tuesday, the 2nd inst.

Charles Hill, Esq., in the chair.

After the usual preliminaries, Mr. S. B. Serjeant (the purser) read from the cost-book of the mine the minutes of the several meetings which had taken place in the country since the commencement of the mine.

The Chairman, and several gentlemen, expressed themselves pleased with the same; but considered, as the majority of shareholders resided in London, and that the meetings would be in future held there, thought that some of the resolutions, which governed the company, required some revision and amendment; it was, therefore, deemed necessary that committees should be appointed, for the purpose of going through the same, and preparing such resolutions, as they deemed most efficient for the more satisfactory government of the company—such measure to be submitted at the next meeting, for the approbation of the shareholders generally.

The accounts submitted to the meeting, showed the amount of calls to Jan., 1847, *to be* 1408*l.*; added to which, on the debtor side, is due on account of December and January cost, 120*l.* 16s. 11d.; and due to purser, 58*l.* 10s. 4d.—making together, 1587*l.* 7s. 3d. On the credit side, the cost up to, and including, January, is 1438*l.* 5s. 3d.; arrears of calls and moneys not carried to account, 149*l.* 2s.—making the total of 1587*l.* 7s. 3d. The value of the materials is estimated by the purser at 500*l.*

A report from the mining captain will be found in our mining correspondence.

A series of resolutions were then proposed, and carried, as published in our advertising columns.

It was arranged that the Union Bank of London should be the bankers of the company; and that all moneys should be paid to the credit of the mine in the names of "Charles Hill and others," and that the lease of the mine should be deposited with the bankers.

Mr. S. B. Serjeant produced plans and sections of the workings, and entered fully into the same, to the satisfaction of the shareholders; also stating that he had obtained a great deal of his information from Capt. Tabb, who had been at all times ready to advise and consult with him.

Mr. Crofts read a report of the mine which he had received from Capt. Tabb, also a letter from Capt. Penaluna.—The thanks of the meeting having been given to the chairman for his able services in the chair, the meeting separated.—[From the general conversation which took place, it may be assumed that this mine, which holds out fair promise of eventually becoming a

profitable mine, will be vigorously and efficiently worked. The original shareholders, it appears, were not generally in a position to carry on so extensively the operations which this adventure required; and now that so important a change has taken place, by the shares falling into the hands of enterprising capitalists, there remains but little doubt of Wheal Benny becoming one of most prominent mines in this highly interesting district.]

CARADON CONSOLS.—A meeting of adventurers was held at the mine, on Tuesday, the 3d inst., at which the accounts, to the end of December, were allowed and passed. A call of 1*l.* 10s. per share was made to meet the existing balance, and for the further prosecution of the mine, to be paid immediately.—It was resolved, that the resolution, passed on the 24th July, 1841, in the articles of agreement for the management of the mine, which forbids the purser from overbalancing the account at the bank, be rescinded.—The following report from Capt. James Clymo was read to the meeting:—Having driven about 70 fms. east on the north lode, in the bottom level, and finding no indications to warrant a further outlay, it was thought advisable to abandon it, which is being done; we are now directing our attention towards the east boundary of the sett, in sinking a new shaft by six men on the course of the main lode, which has proved so productive in the West and South Caradon Mines, and which is 2½ ft. wide, of a very promising character. The lode recently cut in the 37 fm. level is about 1½ ft. wide, composed of good portions of gossan, fluor spar, and peach, far more regular and promising than in the upper levels. The main lode, in the 27 fm. level, west of the engine-shaft, is about 1 ft. wide, producing good stones of ore; we have also holed the winze from the 15 to the 27 fm. level; about 4 fms. west of this winze, we have a good lode in the 15 fm. level, under which the 27 fm. level will pass in about a month from this date. It is highly probable that ultimate prosperity will crown our persevering endeavours.—The statement of accounts showed—balance against the company, Dec. 6, 488*l.* 18s. 7d.; November cost, 117*l.* 13s. 8d.; December ditto, 370*l.* 16s. —927*l.* 8s. 3d.—By arrears of call previous to Dec., 1846, 171*l.*; on account of call made Dec. 4, 392*l.* = 563*l.*—Balance against the company 364*l.* 8s. 3d.

EAST WHEAL CROFTY.—The following are particulars of the account, held at the mine on the 19th Jan.:—To cost for Nov. and Dec, 280*l.* 16s. 4d.: by ores sold (less dues), 347*l.* 17s. 10d.—showing profit for two months, 66*l.* 1s. 6d.: in hand end of Oct. 326*l.* 13s. 7d.—392*l.* 15s. 1d.—By dividend 10*l.* per share, 240*l.*—leaves balance now in hand, 296*l.* 15s. 1d.

EAST WHEAL KITTY.—At a meeting of adventurers, held at the house of Mr. Pearce, St. Agnes, on Thursday, the 28th inst., pursuant to circular, it was resolved, that the accounts, as presented, to the end of Dec., be allowed; and that the balance of 9*l.* 2s. 9d. be carried to the debit of the next account. It was also resolved, that, in consequence of several shareholders being in arrear, the purser is hereby requested to apply for the respective amounts; and, unless the same be paid forthwith, that legal proceedings will be taken for the recovery thereof; and if, after a reasonable time, there should be any defaulters, their respective names and amounts be published in the *Mining Journal*, and the operations at the mine to be suspended until the arrears be collected.—The next meeting is to be held on Monday, the 1st March, at Pearce's Hotel, St. Agnes, that the purser may report progress.

SOUTH WALES SILVER, LEAD, COPPER, AND GOLD MINING COMPANY.—A preliminary meeting of the shareholders in this company was held, pursuant to circular, on Thursday, the 4th inst., when the several reports received from the agents appointed to inspect the mines, and report thereon, were submitted, as also explanations afforded on the proposed working. The meeting was numerously attended, and the proprietors assembled were evidently satisfied with the information rendered. The appointment of a board of directors was resolved upon; but as a general meeting will, we are given to understand, be held on an early day, it would be premature to anticipate the report which may then be submitted, as regards the workings of the mines. We had an opportunity of inspecting several specimens, principally from the backs of lodes, or near surface, of ore, or lode stuff, containing traces of gold.

TAVY CONSOLS.—The bi-monthly meeting of shareholders was held, at the Central Hall, Stonehouse, on Tuesday last.—W. RENDLE, Esq., in the chair.—A statement of accounts were presented by Mr. P. Fisher (the purser), which, having been examined, were passed, and a call of 10s. per share made.—The following report from the mining captain was read to the meeting:—The appearance of the mine still continues very good. Since our last meeting we have sold a parcel of copper ore (24 tons 17 cwts. 3 qrs.), which realised 6*l.* 4s. per ton, and have now on the surface and underground about the same quantity. We have also sunk Williams's shaft 6 fms., and within 9 ft. to the bottom the lode was generally composed of spar, with showy spots of yellow ore. Below this the lode much improves, its composition being mundic, ore, and quartz; but, owing to the great expense in keeping the water with horse-power, we have for the present suspended the sinking the shaft, and put the men to stope the back of the 12 fm. level, where they have a very good lode, producing upwards of 3 tons of ore to the fm. We have also driven the 12 fm. level to the cross-course, and the lode averages from 5 to 6 ft. wide, most of it saving work; owing to the increase of water, which we expect on cutting it the other side of the heave, we have also for the present suspended its driving. We have one pitch working in the bottom of the deep adit on the new lode, at 12s. in the 1*l.* and they have on the surface about 2 tons; and the lode going down, which is about 2 ft. wide, still presents a promising appearance. We have also a pitch working in the back of the shallow adit, on the north lode, at 15s. in the 1*l.*

WEST TOLGUS AND TRELOWETH.—At a special meeting of West Tolgus and Treloweth adventurers, held 2d of February, at the office of the purser, the accounts were presented, showing—labour cost for Sept., Oct., Nov., and Dec., 641*l.* 10s. 5d.; merchants' bills, 346*l.* 9s. 6d. = 987*l.* 19s. 11d.—By seventh call, made 6th Oct., of 2*l.* 0s. 7d. per 256th share, 519*l.* 9s. 4d.: leaving balance now due purser, 468*l.* 10s. 7d.—The foregoing accounts, having been examined and allowed, it was resolved—That a call of 3*l.* per share be made, and immediately collected, together with the arrear of cost, and that legal steps be taken to enforce the payment of such arrear of costs; and, that in consequence of the favourable report of Captains Paul, Pope, and other agents, that the workings of the mine be continued.

WEST WHEAL SHEPHARDS.—At a meeting of adventurers, held at Truro, on the 22d Dec., the accounts, showing balance against the mine of 163*l.* 17s. 10d., were examined and allowed; the loss was divided, and a call of 1*l.* per share made for the further prosecution of the mine. The proceeds included a sale of lead ore, 125*l.* 8s. 11d.—The following report from Capt. D. Skewes was read to the meeting:—The present appearance of our mine is most encouraging. The lode in the 20 fm. level carries with it a leader of lead, connected with a beautiful spar, of about 5 or 6 in. wide, promising to enlarge the further we advance. The 12 east end also has a very promising appearance, carrying a leader of lead in some parts of the lode, varying from 3 to 5 in. wide, and there is no doubt but in a few fathoms the lode will be productive of a large quantity of lead ores.

WHEAL CLIFFORD.—We have received a detailed statement of accounts for the 12 months ending Dec., 1846, from which we find that the labour cost for Jan. and Feb. was 263*l.* 10s. 5d.; tribute of ore, 92*l.* 4s. 4d.; merchants' bills, 149*l.* 11s. 5d.—505*l.* 6s. 2d. Ore sold, Nov. 6 (less 1-16th dues, 27*l.* 5s. 7d.), 409*l.* 5s. 7d. Loss carried on to end of April, 96*l.* 7d.—Labour cost for March and April, 354*l.* 8s. 8d.; tribute, 83*l.* 14s. 5d.; merchants' bills, 1093*l.* 7s. 4d. —1531*l.* 10s. 5d. Ore sold, Jan. 1 (less dues, 40*l.* 10s. 1d.) 607*l.* 11s. 7d. Loss, 923*l.* 18s. 10d.; from end of Feb., 96*l.* 7d. Loss divided, 1019*l.* 19s. 5d.—Labour cost for May and June, 588*l.* 14s. 11d.; tribute, 53*l.* 6s. 6d.; merchants' bills, 1164*l.* 13s. 9d.—1826*l.* 15s. 8d. Ore sold, March 5 (less dues, 40*l.* 16s. 8d.) 612*l.* 10s. 8d. Loss divided, 1214*l.* 4s. 6d.—Labour cost for July and August, 512*l.* 12s. 2d.; merchants' bills, 1744*l.* 19s. 1d.—2257*l.* 11s. 3d. Ore sold May 7 (less dues, 12*l.* 15s. 3d.) 191*l.* 9s. 3d. Loss divided, 2066*l.* 2s.—Labour cost for Sept. and Oct., 733*l.* 14s. 3d.; merchants' bills, 2378*l.* 10s. 7d. Loss divided, 3112*l.* 4s. 10d.—Labour cost for Nov. and Dec., 509*l.* 9s. 9d.; tribute, 85*l.* 6s. 11d.; merchants' bills, 589*l.* 19s. 10d. Loss divided, 1184*l.* 16s. 6d.

WHEAL FORTESCUE.—At a meeting of adventurers, held on Thursday, the accounts and vouchers for the months of Oct., Nov., and Dec., were produced, examined, and found correct, showing a balance due from the adventurers of 118*l.* 15s. 4d. A call of 1*l.* per share was then made.—The report, and other particulars, will appear in our next.

[FROM CORRESPONDENTS.]

EAST CROWNDALE.—As you solicit assistance in obtaining a correct share list, I beg to inform you, that I witnessed the sale of 10 East Crowndale shares at 4*l.* each. The improvement in price is owing to the almost certainty of the Anderton lode running through the whole of the Crowndale sett.

EAST WHEAL SETON.—We are pleased to learn, by letters received during the week, of the decided improvement which has taken place in this mine, as well as the increased value of the parcel of 52 tons, beyond what had been previously calculated on, and for sale on Thursday next (the 4th Feb.)—our correspondent states:—"That the ore was sampled on Wednesday, the 20th; and instead of being worth 5*l.* per ton as was anticipated, it is expected to bring 6*l.* The bottom of the engine-shaft, since the receipt of the last report, has very much improved. The eastern end is also improved, and we expect shortly to cut the ore under the 17 fm., and in the next two months we expect to pay cost. We trust the adventurers will meet that reward which their exertions merit."

WHEAL GILL.—At the last meeting of adventurers, instructions were given to the purser to call on Capt. Rabey, of Wheal Seton, to inspect the mine, who, after many appointments and disappointments, stated his inability to attend, consequently, the purser has requested Capt. Lean, who will, no doubt, furnish as impartial and satisfactory a report; we have been of opinion, and know no reason to depart from it, that an agent from the western part of the county is not the fittest person (however talented he may be) to inspect and report on mines in the eastern district, nor would we send an eastern captain into the western district for the same reason, as each are better acquainted with the local modifications for ore in their respective localities.

DOLCOATH.—You may rely on the authenticity of the report alluded to in last Journal, respecting Dolcoath—the lode is 18 ft. wide, worth 100*l.* per fm.; whether the shares can be got for so low a figure (60*l.*) now, I know not, as the lode seems to be improving.

GWINEAR CONSOLS.—On Friday, the 29th ult., a most valuable discovery was made in this mine; in driving Rosenance cross-cut south a copper lode was intersected, and on the 2d instant it was cut into 8 ft., and still no south wall reached, being composed of gossan, killas, spar, mundic, yellow and black copper ore, and a large quantity of water issuing therefrom; this lode is 10 fms. north of the great tin lode, 20 ft. wide at the shallow adit. Another copper lode, 20 inches wide, with branches of rich ore, was intersected in driving this cross-cut some short time since; and, from the character of these lodes, and the position of the great cross-course, 60 fms. west, there is every prospect of this adventure becoming shortly one of great interest and importance in this long-neglected, but deserving, mining district.

MERIONETHSHIRE MINES.—We are given to understand, that a gentleman, holding a high position as a practical man in the mining world, and of much experience, has been deputed to visit the mines belonging to the North Wales Silver-Lead, Copper, and Gold Mining Company, whose report we hope to lay before our readers on an early day. We cannot doubt but from the abilities of the party employed, the report will be full, and, while it is impartial, we doubt not but it will prove satisfactory.

WHEAL ST. AUBYN AND TREGENNA MINE, ST. IVES.—A correspondent writes as follows:—On Thursday last, another rich discovery was made at this mine. In driving the adit level west, 10 fms. from grass, a rich tin caunter lode was cut, worth 6*l.* 5s. per barrow, and about 1 ft. otg. underlaying west, and within a couple of fathoms of the standard lode. This is in itself sufficient to warrant the future prosecution of the mine, which, from present appearances, is likely to prove a profitable speculation. Our correspondent states that he has seen a very good specimen of tin from this mine, in the possession of Mr. Henry St. Aubyn, C.E., the purser.—*Penzance Gazette.*

MINING IN THE MARIA DISTRICT.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Among the various mining reports announced through your paper, the most popular, certainly, is Wheal Maria, allowed, perhaps, to be the richest copper mine in the known world. Like the relatives of some rich lady, contending for nearness of affinity, as a natural claim to a portion of her wealth, so have the companies of the neighbouring mines zealously endeavoured to outvie each other in proving their particular sett the nearest of kin, and their lode the natural heir to the continuation of this source of wealth, beyond the bounds of the Maria sett. The present rivals seem to be, West (truly north) Maria, South (truly west) Maria, Wheal Williams, West Wheal Williams, Wheal Benny, and Lamberoos setts—North Maria having long since withdrawn all pretensions, being pronounced to be but a tenth cousin. Giving every party credit for their opinions, and respect for their theories, it is somewhat gratifying and amusing to find so much geological talent brought into the field, and to witness, through your and other columns, the arguments adduced to prove their case; and, like the talented heroes of the bar, each party has advocated their particular claim so well, as to procure a verdict from a number of gentlemen, who seem determined no longer to contend with words, but have enlisted into their ranks a host of demonstrators, to decide the question with pick and gad underground. Whilst this conflict is going on, one may tremble for old Nature, knowing that these robust underground warriors, so able and well equipped, will penetrate and explore her very vitals; at the same time, a greater host of those well armed with talent are wielding the sword of mind at the surface, cutting poor old Nature to pieces, and with that little keen weapon, the pen, inform the world where they have thrown her fragments, and the ravages they have made in other men's theories. East, west, north, and south, on the banks of the Tamar, surely never had so much difficulty to keep their position, and had not the great Builder of this great system fixed these four points more firm than the hands of man, with iron bolts and bars, would do, surely they would ere this have been annihilated, or flung about to answer every body's purpose, so far, perhaps, as to never again find their way back to their original position. While such mighty works are going on—while so many gallant knights are in the field, clad in full armour of mind, and so well equipped with the weapons of science—surely, Mr. Editor, you will agree with me, that it will be presumptuous for a weak armed isolated being, like a little David, to enter the field, even merely to pass an opinion among so many Goliahs; and yet, perhaps, to your surprise, I shall ask leave, like David, to visit the camp, and witness the scene—and while there, should I go a step further, and without sword or spear, attempt to fling the stone of inquiry, who, I ask, can say (however insignificant the attempt), that I might not hit near the truth? I suppose, in every case of contention for a prize, every looker-on has his favourite contender, and why not I have mine? Among the different setts before-named (Maria sett excepted), there is one about which but little is said in your Journal; although the adventurers in which, in this respect, want neither mind or means, yet they seem content to wish well to all others; at the same time, like the working bees, to use the most indefatigable exertions to provide for themselves. This sett is the so-called South (but truly west) Maria. The reasons why I give South Maria the preference, in point of relationship to the great Maria sett, will occupy too much time and space for this week's Journal, and I purpose, by your leave, to defer it for your next.

Tavistock, Jan. 21. A WELL WISHER TO MISING.

WESTERN AUSTRALIA.—We have been favoured with communications from Sir James Stirling (the first governor of the colony), Mr. T. R. C. Walters, and Mr. A Shenton, announcing discoveries of minerals by their respective correspondents. Sir James Stirling's letters inform him that traces of a mine of copper or lead, or both, have been discovered on his Woodbridge estate, as well as indications of coal; also, that on Government land, about 18 or 20 miles from Guilford, a mine of tin with a large proportion of silver has been discovered. This letter is from Mr. Abraham Jones, of Woodbridge, and is dated "15th September," from Guilford. Mr. Shenton writes (under date September 13), "We are now in a state of great excitement respecting minerals, good specimens of the ores of copper and tin being found; and great hopes are entertained of the coal mines." Mr. Walters' letters announce the discovery of copper on the grant of Mr. Lukin, at the Toodyay, about 12 or 14 miles west of Mr. Davey's grant; and on Mr. Dempster's, 6 or 7 miles north of it, ore supposed to be of tin or platina.—Mr. Jones, in his letter to Sir James Stirling, quoted above, adds—"The olives are thriving well, as also many other of the fruit trees, this season."—Mr. A. Shenton, in his letter dated Sept. 13, says:—"Our exports this year will amount to nearly 30,000*l.*—far exceeding our imports. The timber trade is also beginning to flourish, many parties having lately engaged in it. Orders for it have been received from the South Australian Government; but to carry it on in the way its quality deserves, we require a large increase to our labouring population, which now is not adequate to the demand. Sawyers, &c. are in good requisition—in fact, not to be got."—*Swan River News.*

MINE ACCIDENTS.

Restormel Iron Mine, Lostwithiel.—J. Jenkin was killed by a fall of earth.

St. Helen's.—T. Parr, aged 11, was killed by an explosion of fire-damp.

Sankey Brook Colliery, St. Helen's.—J. Highcock was killed here.

Dixon's Green Colliery Dudley.—As a little girl, named Ann Price, was standing on the pit bank, a pulley, over which a chain passed, broke, and the chain fell on and killed her.

Brierley Hill.—E. Clarkson and N. Harper were killed at the British Iron Company's works, by the falling of some brickwork, while repairing the engine

Darley Main Colliery, Worsbrough Dale, Sheffield.—As some miners were employed firing a blast of gunpowder to bring down a large piece of coal, an alarm of fire was given from a part of the pit 200 yards distant—the underground steward (G. Gomersley) was sent for, and, accompanied by many of the men, immediately proceeded to the spot. A large mass of coal was found on fire, and every endeavour made to stop up the air-ways, and to put it out by throwing on water. After two hours' incessant exertions, it was found that the fire gained upon them, and the pit was so full of smoke, that it was impossible to remain; many succeeded in reaching the pit's mouth in safety, though dreadfully exhausted. During a period of six hours, every means were adopted to recover those who were missing, and by 12 o'clock at night, six bodies were recovered quite dead. The names of the deceased are—G. Gomersley, the underground steward; T. Elstone, T. Broadhead, J. Jenkinson, J. Gilberthorpe, and G. Brown; the eight who escaped, though seriously ill, are expected to recover.

THE BANKING INTEREST IN THE MINING DISTRICTS OF SOUTH STAFFORDSHIRE.—The meetings of the various joint-stock banking companies, which have taken place during the week, show very satisfactory results, not only to the proprietors, but (by inference) to the public. In every instance a large increase in the profits is apparent from the balance-sheets, which is attributed to the improved state of trade in causing money to be better employed; and, doubtless, a part of it is, in some degree, consequent on the general advance in the price of manufactures and food. A half-yearly dividend of 7s. 6d. per share, being at the rate of 10 per cent. per annum on the capital has been declared by the Stourbridge and Kidderminster Banking Company. The Bilston Banking Company, on Tuesday, at their meeting, declared a dividend of 4 per cent. for the half year, ending on the 31st December, in addition to one of 3½ per cent., paid on the 1st September. The report showed a balance in favour of the company of 2,757*l.* 19s. 10d.—479*l.* 17s. 4d. of which was placed to the guarantee-fund, which now reaches 5,965*l.* 4s. 4d.—The Wolverhampton and South Staffordshire Bank report, which was read at their meeting, on Monday, showed a result more favourable to the company, than any they had before experienced—the net profits of the year being 11,611*l.* 5s. 1d., or more than 23 per cent. on the paid-up capital. A dividend of 10 per cent. (without deduction) was declared, in addition to one of 7½ per cent., paid on 1st September, leaving a balance of 5,294*l.* 18s. 5d. to be placed to the guarantee-fund, which amounts to 25,000*l.*—The meeting of the Dudley and West Bromwich Banking Company, on Tuesday, presented no less gratifying results. A dividend of 5 per cent., without deduction, was declared (in addition to the dividend of 5 per cent. paid in September last), and also a bonus of 5 per cent., payable on the 1st of March. The guarantee fund amounts to 45,000*l.*, and several thousand pounds were carried to a reserve fund for bad debts. In all cases these results were occasioned by an increase in the number and amount of banking transactions, attributable to an improved state of trade, and its continued thriving condition.

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning, Eleven o'clock.

Bank Stock, 7 per Cent., 203		Belgian Bonds, 4½ per Cent., 93	
3 per Cent. Reduced Ann., 91¾ 1		Dutch, 2½ per Cent., 55	
3 per Cent. Consols Ann., 91¾		Brazilian, 5 per Cents., 85½	
3 per Cent. Annuities, 89¾		Chilian, 6 per Cents., 94½	
3½ per Cent. Ann., 93 2½ 3		Mexican, 5 per Cents., 22½ 3	
Long Annuities, 9¾		Spanish, 5 per Cents., 24½	
India Stock, 10½ per Cent., 251 50		Ditto 3 per Cents., 34½ ⅝	
3 per Cent. Consols for Acc., 91 ¾ 1		Portuguese, 5 per Cents., 43	
Exchequer Bills, 1000*l.* 1¼d., 7 4 pm.		Russian, 5 per Cents., 111½ 10	

The funds have been rather depressed during the early part of the week, as the jobbers are anxiously awaiting to see to what extent the Chancellor of the Exchequer intends affording relief to Ireland. There is plenty of money disposable in the City; and Government will have no difficulty in obtaining loans for that purpose at a low interest. Consols may, however, be quoted steady at 91 for money, and 91½ for account.

MINES.—Very little improvement, if any, has taken place in the mining share market during the week: at the same time we do not see any depreciation in the price of shares in which business has been done—therefore, we may state that the shares generally maintain last week's quotations. Several transactions have taken place in Callington Mines shares at rather improved prices. Rialtons were a little in demand last week, but the *fever* for them appears to have abated. Treviskey and Barrier, and also Wheal Seton, have been inquired for; but we have not heard that any business has been done in the latter. Kirkcudbrights have been in request at former prices, and some business done. At the meeting of Wheal Benny shareholders, held here on Tuesday last, we learned that the majority of shares have changed hands, varying in price from 4½ to 6. Pennant Lead and Copper Mines have also been sought for at an advance—the directors' report of their proceedings at the mines having produced a demand: we are advised that a large number have changed hands at 2*l.* Transactions in the following mines have taken place during the week, viz.: Trewallack, East Tamar, South Tamar, Wheal Benny, Tamar Consols, Lamberoos, Rialtons, Mendip Hills, Trehane, West Maria (tin), Callestick, Concords, Holmbush, Stray Park, Wheal Providence, Devon and Courtney, Fowey Consols, and Gwinear Consols. In foreign mines, some Altens have been done at our present quotations. During the early part of the week some inquiries were made for the Asturian shares, with every appearance of business at an advanced price; but we do not find that such a market was supported, nor have any business been done, even at our quotation of this day. Australians have been purchased at an advance on last week's price, and Bolanos find buyers freely.

RAILWAYS.—The share market generally speaking has been rather heavy, and very few transactions worthy of notice have been entered into. Well established lines, however, continue pretty firm. There has been nothing of interest at Liverpool to be noted, in consequence of the uncertainty both as to the price of money in London, and the general prospect of mercantile affairs, which tended to check all speculation in shares. At Manchester and Birmingham, they have been rather better in demand, with a slight improvement. At Bristol and Leeds, rather dull, but prices steady. In French and foreign there has been a little more doing than last week, at an improvement.

HULL, THURSDAY.—The transactions, since our last, have been unimportant. A meeting of North British shareholders, held here yesterday, on the Stock Exchange, confirmed the views of the directors, with regard to the refusal of the offer made them, by the York and Newcastle, and empowered them to continue the negotiation for better terms, and to receive offers generally. A meeting of Darwen and Clitheroe proprietors, held also on the Stock Exchange, memorialised the directors to guarantee the proposed new issue, 6 per cent., instead of 5 per cent.—the latter rate, in the present state of the money market, being simply absurd. We need not hazard the opinion, that any recommendation as to North British or Darwen from Hull will be favourably received, both stocks being so largely and influentially held here.

RAILWAY TRAFFIC RETURNS.

From these returns, it will be seen, that the amount of traffic for the last week, on nearly 2730 miles of railway, was 131,835*l.*, thus accounted for:—65,293*l.* for the conveyance of passengers only, 39,307*l.* for the carriage of goods, and a remainder of 28,235*l.* for passengers and goods together, not respectively apportioned; being an increase over the corresponding week of last year of 16,750*l.*, when the mileage was about 1,920.

Name of Railway.	Lgth. Hway.	Present actual cost.	Last Div.	Traffic Returns. 1847	1846
Arbroath and Forfar	18	£142,900	3*p.c.*	£ 210 18 8½	£ 256
Chester and Birkenhead	15	658,292	2½	477 4 7	492
Dublin and Drogheda	35	660,248	3½	655 7 9	579
Dublin and Kingstown	6	349,736	9	979 2 10	923
Dundee and Arbroath	17	156,323	6	301 3 9½	256
East Lancashire	28	280,061	—	632 6 11	—
Eastern Counties	161	4,035,474	6½	9145 4 7	6296
Eastern Union	17	227,253	—	433 0 0	—
Edinburgh and Glasgow	46	2,112,126	6	3069 6 1	2311
Glasgow, Paisley, and Ayr	43	1,301,381	7	1951 0 0	1886
Glasgow, Paisley, & Greenock	23	829,427	2	953 2 11	652
Great Southern and Western	86½	845,943	—	930 19 3	—
Great Western	241	8,585,605	8	16209 0 0	15161
Ipswich and Bury	26½	—	—	383 0 0	—
London and North Western	440½	16,327,526	10	34874 3 3	34569
London and Blackwall	4	1,081,273	1½	713 11 1	689
London, Brighton, & South Coast	113	3,339,280	5	5279 18 2	3545
London and South-Western	106	3,648,547	9	5174 3 4	4984
Manchester & Leeds	117	4,636,556	7	7416 9 1	6139
Manchester, Sheffield, & Lincolnsh.	10	1,633,221	5	1734 4 4	1442
Midland Company	331	7,562,374	7	16812 3 11	14148
Newcastle and Berwick	9	527,980	5	469 4 3	—
Newcastle and Carlisle	65	1,127,385	5	1637 2 4	1477
Norfolk	70½	985,079	6	1292 12 7	1222
North British	72	1,459,958	—	1795 12 7	—
Preston and Wyre	22	422,614	5½	576 7 0	431
Shrewsbury and Chester	15	354,945	—	295 14 0	—
South Devon	15	778,976	—	381 9 4	—
South-Eastern	140	5,260,816	5½	6238 19 9	5059
Taff Vale	20	690,229	6	1202 10 2	900
Ulster	25	856,353	5½	732 14 0	641
York and Newcastle	147½	2,334,599	9	7479 11 7	6227
York and North Midland	165	2,092,979	10	5002 15 4	4355
FOREIGN RAILWAYS.					
Dutch Rhenish	57	—	—	5229 0 0*	—
Northern of France	260	—	4	8489 0 0	—
Orleans and Bordeaux	72	509,040	4	2289 0 0	—
Paris and Orleans	82	2,082,916	9½	6190 0 0	4662
Paris and Rouen	89	2,082,916	8	5703 0 0	4889
Paris and Versailles (left bank)	—	—	—	1499 0 0*	—
Ditto (right bank)	—	—	—	2608 0 0*	—

* Last monthly return.

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Allerton Main 16—Adair's Main 18—Buddle's West Hartley 18—Carr's Hartley 18—Clavering's Tanfield 17 6—Chester Main 18 6—Davison's West Hartley 18—Dean's Primrose 17 9—Hasting's Hartley 18—Holywell Main 21—Nelson's West Hartley 18—New Tanfield 17 6—North Wylam 18—Ord's Redheugh 18—Original Tanfield 17 6—Ravensworth's West Hartley 18—Ravensworth's Pelaw 18 3—Shaftoe Hartley 16 6—Tanfield Moor 20—Twizel Main 17—Townley 18 6—West Hartley 18—Wylam 19 6—Wall's End Acorn Close 19—Bell and Brown 20 6—Denison 19—Gosforth 20 9—Gibson 19 6—Hebburn 19—Killingworth 20 6—Northumberland 19 6—Pearson 19—Wharncliffe 20 9—Eden Main 21 and 21 6—Belmont 21—Braddyll's Hetton 22 and 22 3—Bell 22—East Hetton 20—Haswell 23—Hetton 23—Lambton 22 9—Pemberton 20 6—Russell's Hetton 22 9—Shotton 22—Stewart's 22 6 and 23—Caradoe 21 9 and 22—Cassop 21 9—Hartlepool 23—High Thornley 20—Hartlepool and St. Cuthbert's 20 6—Kelloe 21 9—Thornley 21—Adelaide Tees 22 and 22 6—Cowndon Tees 20 6—Gordon 18 6—Seymour Tees 21—South Durham 20 9—Tees 22 6—West Cornforth 21—West Tees 20—Blaengwaur 22—Cowpen Hartley 18—Derwentwater Hartley 18—Sidney's Hartley 18—West Hartley Netherton 18.—Ships at market, 535.

WEDNESDAY.—Adair's Main 17—Buddle's West Hartley 17 6—Carr's Hartley 17 6—Clavering's Tanfield 17 6—Chester Main 18 9—Davison's West Hartley 17 6—Dean's Primrose 16 9 to 17—Dipton Tanfield 17—Ellison Low Main 16 6—Fordell Main 16 6—Grace's Hartley 16—Haigh Moor 18—Hasting's Hartley 17 6—Holywell Main 20 6—Nelson's West Hartley 17 6—New Tanfield 17 6—North Pelaw 16 3—North Wylam 19 6—Old Pontop 17—Original Tanfield 17 6—Pelaw 16 9—Ravensworth's West Hartley 17 6—Ravensworth's Pelaw 16—Stewart's Hartley 17—Tanfield Moor 20 6—Taylor's West Hartley 17 6—Twizel Main 16 3 to 17—Wylam 20—Wall's End Acorn Close 19 9—Bewicke and Co. 20 9—Bell and Brown 20 6—Brown's Gas 16 3—Burnhope 19—Clarke and Co. 17 6—Elm Park 19—Gosforth 20 9—Harton 20 6—Heaton 20 9—Hebburn 19 3—Hilda 20—Hotspur 19 6—Killingworth 20 6—Northumberland 19 6—Usworth, unscreened 16 6—Wharncliffe 20 6—Eden Main 21 3 to 21 6—Belmont 21 3—Braddyll's Hetton 22 6—Bell 22—East Hetton 20 to 20 3—Haswell 23—Hetton 23—Lambton 22 9—Lumley 19—Russell's Hetton 22 9—Shotton 21 9—Stewart's 23—Whitwell 20—Caradoe 22—Hudson's Hartlepool 21 6—High Thornley 20 3—Hough Hall 21—South Kelloe 21—Adelaide Tees 22 9—Barrington Tees 19—Gordon 19—Seymour Tees 21 3—South Durham 20 9—Tees 22 9—Tees Hetton 18 6—Cowpen Hartley 17 6—Derwentwater Hartley 17 6—Howard's West Hartley Netherton 17 6—Sidney's Hartley 17 6—Ships, 375.

FRIDAY.—Buddle's West Hartley 17—Carr's Hartley 17—Davison's West Hartley 17 6—Dean's Primrose 17—Dipton Tanfield 16 6—Hasting's Hartley 17—New Tanfield 17—North Pelaw 16 6—North Wylam 18 6—Old Pontop 16 6—Original Tanfield 16 9—Ord's Redheugh 17—Ravensworth's West Hartley 17—South Pontop 16—Stewart's Hartley 17—Tanfield Moor 20—Tanfield Moor Butes 17—Twizell Main 16 6—West Hartley 17—Wylam 20—Wall's End Bewicke and Co. 20 9—Brown's Gas 16 6—Clarke and Co. 18 3—Elm Park 19—Gosforth 20 9—Harton 20 6—Heaton 21—Hebburn 19 3—Hilda 20—Hotspur 19 9—Killingworth 20 6—Northumberland 20—Riddle's 20 6—Eden Main 21 9—Belmont 21 3—Bell 22 9—East Hetton 20 3—Hanaton Main 16 6—Hetton 23 3—Lambton 23—Russell's Hetton 23—Shotton 21 9—Stewart's 23—Whitwell 20—Caradoe 23 6—Cassop 21 9—High Thornley 20 3—Adelaide 22 9—Brown's Deanery 21—Gordon 19—Tees 23 9—Tees Hetton 18 6—West Tees 20—Cowpen Hartley 17—Derwentwater Hartley 17—Howard's West Hartley Netherton 17 6—Sidney's Hartley 17.—Ships, 243.

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price.
1024	Alfred Consols	4¼	60
235	Andrew and Nangiles	28¾	20
1000	Barristown	4½	27½
4000	Bedford	2½	3½
128	Besore Lead Mine	14	30
320	Birch Tor Tin Mine	31½	14½
8000	Blaenavon	50	40
100	Botallack	175	270
120	Brewer	5	7
10000	British Iron, New, regis.	10	18½
—	Ditto ditto, scrip	10	19
128	Budnick Consols	52½	45
128	Burthy	20	21
100	Bwlch Cwmerlin	20	—
256	Callestock	17	25
1000	Callington	19	22–4
256	Caradon Consols	45	10
256	Caradon Copper Mine	9½	1
256	Caradon Mines	15	15
256	Caradon United	24	10
256	Caradon Wh. Hooper	12	7
1000	Carn Brea	15	100
2048	Carmarthen Consols	3	5
112	Charlestown	200	175
166	Cleveland	9	6
1900	Combmartin	5½	4½
1000	Comblawn	2	2
128	Comfort	45	47½
5000	Con. Tretoil Mining Ass.	5	¼
128	Condurrow	36	55
2560	Cook's Kitchen	2½	4
1080	Copper Bottom	1	5
1024	Cosheen	4½	30
240	Craddock Moor	15½	15
128	Creeg Braws	120	200
500	Cubert Mine	12	27½
7100	Derwent	8½	5
1024	Devon & Courtenay Con.	5	4
1000	Dhurode	2	5
186	Dolcoath	30	60–5
10000	Durham County Coal	45	9
256	East Alvenney	3	10
112	East Caradon	40	40
2048	East Crowndale	4½	4
512	East Combe Silver-Lead	6½	20
128	East Pool	5	14
100	East Bellstian	15	17
9000	East Tamar Consols	1½	2½
—	East Wheal Albert	1	3
94	East Wheal Crofty	280	310
256	East Wheal Fortune	1½	3
256	East Wheal Kitty	½	1
128	East Wheal Rose	50	1200
123	East Wheal Seton	14	22
512	Fowey Consols	40	45
20000	Galvanised Iron Co.	10	9½
10000	Gen. Mining Co. for Irel.	½	¼
1000	Godolphin	25	35
256	Gonamena	21	50
128	Goonvrea	4	5
128	Gover	23	200
244½	Grambler & St. Aubyn	—	41
100	Great Consols	1000	400
256	Great Callestock Moors	22	26
2560	Great Michell Consols	1½	4
256	Great Resugga Moor	2	4
512	Gt. Wh. Rough Torr Con.	2	25
1600	Great South Tolgus	2	3
100	Grogwinion	5	—
1000	Gunnis Lake	1½	3
256	Gwinear Consols	5	25
1000	Hanson	14	3
1000	Harrowbarrow Old Mine	5½	2½
1000	Harrowbarrow Consols	2	¼
800	Hawkmoor	3	2
6000	Heligston Down Con.	½	2½
256	Herodsfoot	14	5
40000	Hibernian	12½	1
—	Hobb's Hill	4	3
1000	Holmbush	18	15
256	Ivy Tor	1½	2½
627	Kirkcudbrightshire	4½	5½
2048	Lamherooe Wh. Maria	9	6
128	Lanarth & Penstruthal	190	100
2048	Lanivet Consols	4	2
200	Larkholes	1	3
160	Levant	—	90
1000	Lewis	15	10
1280	Llancynfelin	6	10
256	Lostwithiel Consols	6	7
128	Ludcott	3	3
4000	Marke Valley	10	3½
5000	Mendip Hills	2	1½–2
20000	Mining Co. of Ireland	7	2
200	Nanterrow Consols	24½	9
128	North Fowey Consols	20	22
100	North Pool	85	95
70	North Roskear	10½	280
256	North Treburget	4	5
100	North United	41	20
262	North Wh. Leisure	1½	3½
128	North Wh. Providence	2½	7
256	North Wheal Rose	26½	13
15000	Northern Coal Co.	22	2
1200	Old Delabole Slate Co.	25	50
128	Par Consols	900	1600
1024	Pembroke	1½	6
256	Penhallow Moor	15	4
6000	Pennant	1	2
100	Penrhiw	30	65
128	Pen-y-Cefn Mine	50	55
1280	Perran St. George Un.	13	20
128	Perran Wh. Virgin	9½	80
512	Plymouth Wh. Yeoland	2½	5½–6
2048	Prince Edward	1½	1½
112	Providence Mines	35	45
256	Redruth Consols	3	10
10000	Rhymney Iron	50	30
256	Rose Consols	10	10
1000	Rosewall Hill	1	3
—	Shotts Iron Company	50	70
2500	Silver Valley	4	3
256	Seurton Consols	3½	3
128	South Caradon	10	400–10
2000	South Dolcoath	2	—
256	Sth. Friendsh. Wh. Ann	14	14
200	South Harvannah	23	26
9000	South Tamar	½	¼
256	South Tolgus	2½	15
800	South Towan	10	1½
256	South Trelawney	15½	14

BRITISH MINES—*continued.*

Shares.	Company.	Paid.	Price.
128	South Yeoland	16½	20
128	South Wheal Basset	110	110
124	South Wh. Francis	160	140
256	South Wh. Hope	—	5
1000	South Wh. Maria	2½	2
256	South Wheal Rose	11½	1
10000	Southern & Western, Irish	2	4–5
256	St. Austell Consols	7	16
94	St. Ives Consols	—	320
128	St. Michael Penkivel	5	7
1000	Stray Park	48	22
9600	Tamar Consols	3	5½
1024	Tavy Consols	1½	3½
6000	Tincroft	7	9½
256	Ting Tang	15	20
128	Tokenbury	140	17½
256	Trehane	2	22
5000	Treleigh Consols	6	3
256	Trenow Consols	30	40
96	Treasvean	10	200
120	Trethellan	5	35
120	Treviskey and Barrier	130	120
256	Trewollack	20	26½
128	Trewellard	12	26½
6000	United Hills	5	1
100	United Mines	300	500
10240	Victoria Tin	1	1
256	Wellington Mines	15	30
128	West Basset	45	15
256	West Caradon	20	160
128	West Cargoll	2	12
512	West Fowey Consols	40	25
256	West Grambler	7	6
—	West Kekewich Consols	—	3
256	West Providence	9½	20
200	West Seton	40	46
120	West Trethellan	5	25
256	West United Hills	2½	6–10
256	West Wh. Friendship	7½	4
3845	West Wheal Jewel	11	2½
2560	West Wh. Maria	1½	3½
256	West Wheal Shepherd	5	2
256	West Wheal Tolgus	21½	5–5½
256	West Wheal Treasury	14½	12
240	Westerlake	3	3
5200	Wicklow Copper	5	15½
184	Wheal Adams	41	80
1000	Wheal Agar	—	—
256	Wheal Albert	10	8
128	Wheal Acland	13	2
256	Wheal Allen	1½	4
237	Wheal Anderton	14½	25
128	Wheal Ann	—	50½
128	Wheal Arvose	2	4
2560	Wheal Barbara	1½	1½
256	Wheal Benny	5½	3
256	Wheal Blencowe	8	10
256	Wheal Bucketts	20	25
256	Wheal Byon Consols	½	½
136	Wheal Clifford	190	190
1024	Wheal Concord	5½	3½
128	Wheal Courtenay	—	20
6000	Wheal Curtis	1½	1½
256	Wheal Dyke	12	13
512	Wheal Elizabeth	2½	3
256	Wheal Fortescue	5½	9
2048	Wheal Frederick	2	2
384	Wheal Franco	25	25
256	Wheal Gill	19½	18
128	Wheal Harriet	45	50
2048	Wheal Holwell	1½	1½
256	Wheal Jane	11	35–37½
256	Wheal Kekewich	4	4
256	Wheal Louisa	6½	12
256	Wheal Maria (Hayle)	19	30
1024	Wheal Maria	1	500
4000	Wheal Martha Consols	5	—
256	Wheal Mary Ann	5	70
1024	Wheal Mary (Calstock)	5	1
256	Wheal Mary Consols	34	25
256	Wheal Mary (Lanivet)	6½	7
256	Wheal Mary Pentuan	1½	4–6
256	Wheal Maude	1½	1½
128	Wheal Metha	21	90
128	Wheal Pollard	12½	12
210	Wheal Prospect	4	11½
128	Wheal Providence	40	50
128	Wheal Reeth	1	60
128	Wheal Rose	60	35
99	Wheal Seton	150	260
1024	Wheal Spearne	1½	8
256	Wheal Sisters	27½	22½
260	Wheal Trelawney	7½	130
256	Wheal Tremayne	25	60
128	Wheal Trew	20	21
256	Wheal Trevenna	3	4
92	Wheal Tryphena	140	150
128	Wheal Venland	12½	10
127	Wheal Virgin	50	60
256	Wheal Vlow (Perranz.)	½	½
1024	Wheal Walter	4	2½
256	Wheal Williams	2	10

FOREIGN MINES.

Shares.	Company.	Paid.	Price.
5000	Alten Mining Company	14½	4
15000	Asturian Mining Co.	9	6
20000	Australian	2	5
10000	Anglo-Mexican Co.	100	1
12374	Ditto Subscription	25	2½
3000	Bolanos	150	6½–¾
2000	Ditto Scrip	15	—
12000	Brazilian Imperial	20	2½
10000	Cobre Copper Co.	40	18½
12500	Colombian Co. regis.	55	} 4½
8000	Ditto Scrip	—	}
5000	Copiapo Mining Co.	14	2½
10000	General Mining Ass'n.	20	15½
20051	Mexican Company	59	—
5000	Mocaubas & Cocaes	25	6½
29320	{ Rl. del Monte, regis. / Ditto unregistered }	28½	av. 3½
	Ditto Red Debentures	—	21
	Ditto Black ditto	—	17
	Ditto Loan Notes	150	125
7000	Royal Santiago	10	7½
2000	Pachuca Mines	3	3½
11000	St. John del Rey	15	9½
43174	United Mexican	28½	2½

*** We should feel greatly obliged by agents, or others interested, furnishing us with such corrections for our Share List as we may not have received through our usual channels of information—our object being, to present as accurate a list of prices as can be obtained—to procure which, we solicit the aid of correspondents in general.*

LATEST CURRENT PRICES OF METALS.

LONDON, FEBRUARY 5, 1847.

Article	£ s. £ s. d.	Article	£ s. £ s. d.
Iron—Bar a. Wales ..ton	0 0—9 0 0	Copper—Ordin. sheets, lb.	0 0—0 0 10
„ ..London	0 0—10 0 0	„ bottoms	0 0—0 0 11
Nail rods „	0 0—10 15 0	Yellow Metal Sheathing	0 0—0 0 8½
Hoop (Staf.) „	0 0—12 0 0	Tin—Com. blocks g ..cwt.	0 0—4 18 0
Sheet „ „	0 0—13 0 0	„ bars	0 0—4 19 6
Bars „ „	11 0—11 10 0	Refined	0 0—5 1 0
Welsh cold-blast foundry pig	5 5—5 10 0	Straits h	0 0—4 18 6
Scotch pig b, Clyde	3 12 6 3 13 6	Banca	0 0—5 1 0
Rails, average	9 15—10 0 0	Tin-Plates—Ch., IC i, box	1 10—1 12 0
Russian, CCND c	0 0— —	„ IX	1 16—1 18 0
„ PSI	0 0— —	Coke, IC	1 7—1 8 0
„ Gourieff	0 0— —	„ IX	1 13—1 14 0
„ Archangel	0 0—13 10 6	Lead—Sheet k ..ton	19 5—19 10 0
Swedish d, on the spot	0 0—11 15 0	Pig, refined	0 0—21 0 0
„ Steel, fagt.	0 0—17 0 0	„ common	0 0—18 15 0
„ „ kegs	0 0—15 15 0	„ Spanish, in bd.	17 10—18 0 0
Copper—Tile f	0 0—87 10 0	Spelter—(Cake) l	0 0—22 10 0
Tough cake	0 0—88 10 0	„ for arrival	0 0—21 10 0
Best selected	0 0—91 10 0	Zinc—(Sheet) m export.*	27 0—28 0 0
		Quicksilver n ..lb.	0 0—0 4 6

a Discount 2½ per cent. b Net cash. c Discount 2½ per cent. d Ditto. In kegs ½ and ⅝-inch. f Discount 3 per cent. g Ditto 2½ per cent. h Net cash. in bond. i Discount 3 per cent. k Ditto 2½ per cent. l Net cash. m Discount 1½ per cent. n Discount 1½ per cent. * For home use it is 32l. per ton.

There has been no alteration in the prices of English bar and pig-iron this week. Scotch pig-iron is steady, notwithstanding several parcels having been forced off at prices considerably under market value. We quote for mixed Nos. 72s. 6d., and for No. 1 73s. 6d., cash. At per sale, 378 slabs of Straits tin have been offered, and bought in at 98s. Spelter is not so brisk, and our quotations may be considered nominal.

MONTHLY REPORTS.

[From our Correspondent.]

Iron.—The prices of Welch and Staffordshire are a shade firmer than on 1st ult., but the export demand is by no means active. Scotch pig, on the contrary, has declined, and in the third week of January sales were made as low as 70s. to 70s. 6d. cash for mixed Nos.; since then the price has recovered a little. There was an improved demand last month for Swedish iron and steel, the stocks of which are now very bare.

Copper.—The price is exceedingly firm. An advance of ½d. per lb. on manufactured was generally expected in January, but it did not take place. The smelters are so much occupied with previous sales as to decline export and other large orders at the current rates.

Tin remains very steady. For English the demand is good, and stocks are low. In foreign several sales were made in the early part of last month, chiefly for the United States: during the rest of the month little was done. The stock on hand on 30th ult., including a parcel just arrived, was 135 tons, out of which 40 tons of Banca have been sold this week.

Tin Plates.—Very little doing for some time past; but there is no disposition to lower the prices.

Lead continues very firm, with a good demand for home use. Of foreign there is no American, and very little of soft Spanish.

Spelter.—The transactions in past month, both on the spot and for delivery, were very numerous, and the price has advanced about 3l. per ton since 1st ult.: we believe the highest price has been 21l. 5s. for arrival, and 22l. 10s. on the spot. The stock in warehouses amounts to 2930 tons, of which full one-third is appropriated.

[From a Correspondent.]

Iron.—A fair business has been done in Welsh bars, of which makers sold freely in the early part of the month at 9l. per ton in Wales. Latterly, not so much business has been doing, yet prices are firmly maintained. The transactions in rails have been limited, and in one or two instances business has been done at a shade under the price quoted. Welsh pig-iron has been in good demand throughout the month, at full prices. At the quarterly meeting of ironmasters, held at Birmingham, in the middle of the month, it was determined not to advance the prices; and, at the old rates, Staffordshire pigs were in good demand. Scotch pigs, which, at the commencement of the month, freely commanded 3l. 17s. 6d. for mixed Nos., declined as low as 71s. to 72s. 6d.; but prices have since rallied a little, and here, and at Glasgow, holders are firm at 72s. 6d. to 73s. 6d.—a moderate business doing. This article has been more affected by the rise in the value of money than other descriptions of iron, as the holders are more numerous. Swedish iron and steel are firm at present prices, stocks being limited.

English Copper.—Smelters having, during last week, refused to sell at present prices, those quoted may be considered nominal.

English and Foreign Tin.—The business done has been trifling, but the limited stocks of both, cause holders to continue firm at quotations. The stock of foreign is at present only 127 tons.

Tin-Plates are not in demand—yet prices are firmly maintained.

English Lead is in fair demand for home consumption.

Spelter, as was anticipated from the very small stock here on 31st Dec. last, has advanced from 19l. 12s. 6d. to 22l. 10s. on the spot, at which large parcels have been sold; and for spring delivery, several purchases have been made, at prices varying from 19l. 12s. 6d. up to 21l. 10s. The stock here is now reduced to about 2000 tons.

GLASGOW PIG-IRON TRADE, Feb. 3.—The market has improved within these few days. The demand is good, and time contracts have been entered into, to some extent, at 75s.: sales for cash have been made at 73s. There are still buyers at this figure, but no sellers—the price asked is 74s. to 75s., and some are holding at higher rates. The shipments from here, during January, have been unusually large; as near as we can yet judge, they will amount to about 30,000 tons—fully double that of the corresponding period of last year.

EXPORTS OF METALS TO ALL INDIA FROM LONDON AND LIVERPOOL.

FOR THE FIRST MONTH OF 1846 AND 1847.

Metals.		1846.	1847.	*In. in* 1847.	*Dec. in* 1847.
Spelter	*Tons*	238	11	—	227
Copper		259	333	74	—
Iron, British		202	343	51	—
Ditto, foreign		201	52	149	—
Tin-plates	*Boxes*	720	275	—	445
Lead	*Tons*	13	27	14	—
Steel		31	59	28	—
Quicksilver	*Bottles*	—	—	—	—

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—

Silver bars to Rotterdam	3,800	ounces.
Ditto to Belgium	40,000	„
Ditto to Cuxhaven	93,500	„
Silver coin to Belgium	9,000	„
Ditto to Rotterdam	6,000	„
Gold bars to Belgium	4,800	„
Ditto coin to ditto	254	„

TO MINING ENGINEERS, LAND SURVEYORS, &c.—WANTED, EMPLOYMENT, by a person who has had CONSTANT AND EXTENSIVE PRACTICE in the above capacities, during the last 10 years, in the COAL-FIELDS OF NORTHUMBERLAND, DURHAM, AND LANCASHIRE. The advertiser is fully qualified to take the management of a colliery, having served his apprenticeship as colliery viewer in the two former counties.

The highest testimonials, as to character and ability, can be furnished.—Address, by letter, to A. B., care of the Editor of the *Mining Journal*, 26, Fleet-street, London.

COPPER ORES.

Sampled Jan. 20, and Sold at Andrew's Hotel, Redruth, Feb. 4, 1846.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
Wh. Seton	115	£6 16 0	South Wh. Basset	45	£4 2 6
ditto	96	6 16 0	ditto	32	4 6 6
ditto	83	6 9 6	ditto	1	49 2 0
ditto	68	6 12 0	North Pool	77	3 12 0
ditto	66	6 17 0	ditto	74	2 16 6
ditto	65	7 12 6	ditto	53	6 15 6
ditto	57	5 17 6	ditto	20	2 5 0
Camborne Vean	80	5 6 6	Fowey Consols	87	5 1 6
ditto	77	6 3 6	ditto	76	5 10 0
ditto	65	5 10 0	ditto	58	2 17 6
ditto	64	4 0 6	Condurrow	83	3 2 6
ditto	60	4 8 6	ditto	77	5 8 6
ditto	59	3 13 6	Wh. Comfort	63	5 9 0
ditto	50	6 0 0	ditto	48	4 16 0
ditto	48	2 9 6	ditto	47	4 2 6
ditto	16	2 3 0	South Wh. Francis	50	19 19 0
Stray Park	22	4 5 0	ditto	49	19 17 0
East Wh. Crofty	92	5 14 0	ditto	41	4 12 6
ditto	80	6 4 6	Wh. Buckett's	101	5 12 0
ditto	73	4 9 0	ditto	17	3 6 6
ditto	63	4 18 0	ditto	12	1 13 6
ditto	60	4 14 0	Trethellan	100	2 13 6
ditto	31	2 9 6	Wh. Brewer	48	3 5 0
Longclose	45	5 11 6	ditto	47	2 11 6
Dudnance	32	7 12 6	Lanivet Consols	69	6 6 6
Tincroft	79	3 19 6	ditto	22	3 6 0
ditto	73	4 0 0	East Pool	45	4 4 0
ditto	63	3 19 6	ditto	33	1 7 0
ditto	56	3 19 6	Charlestown United	41	14 10 6
ditto	54	6 19 0	ditto	30	31 10 0
ditto	48	3 8 6	Wh. Vyvyan	40	1 8 0
ditto	33	4 16 0	ditto	26	6 3 0
ditto	32	1 15 6	East Seton	28	6 7 0
Dolcoath	105	7 9 0	ditto	24	6 18 6
ditto	92	5 3 6	Tretoil	48	4 7 6
ditto	54	0 7 6	Hanson Mines	41	4 9 6
ditto	39	3 19 6	Godolphin	28	3 16 6
ditto	34	7 10 6	Gt. Michell Consols	20	6 0 6
ditto	23	2 1 6	West Basset	16	5 13 6
South Wh. Basset	107	4 14 6	Wh. Ruby	12	6 16 6
ditto	48	15 0 0	ditto	2	3 8 6
ditto	47	5 4 6	Wh. Courteney	10	10 18 6

TOTAL PRODUCE.

Mines.	Tons.	Amount.	Mines.	Tons.	Amount.
Wh. Seton	550	£3703 12 6	Trethellan	100	£267 10 0
Camborne Vean, Stray Park	541	2548 18 0	Wheal Brewer	95	277 0 6
East Wh. Crofty, Dudnance, Longclose	476	2499 11 0	Lanivet Consols	91	509 0 6
Tincroft	438	1834 15 6	East Pool	78	233 11 0
Dolcoath	357	1757 19 0	Charlestown United	71	1840 10 6
South W. Basset	280	1846 11 6	Wh. Vyvyan	66	215 18 0
North Pool	224	890 6 6	East Seton	52	344 0 0
Fowey Consols	221	1026 5 6	Tretoil	48	210 0 0
Condurrow	160	677 2 0	Hanson Mines	41	183 9 6
Wh. Comfort	158	767 12 6	Godolphin	28	109 18 0
South Wh. Francis	140	2159 15 6	Gt. Michell Consols	20	120 10 0
Wh. Bucketts	130	642 4 6	West Basset	16	90 16 0
			Wh. Ruby	14	88 15 0
			Wh. Courtney	10	109 0 0

Average Standard £107 10 0 | Average Produce 7¼

Average Price per ton £5 11 6

Quantity of Ore 4405 tons. | Quantity of Fine Copper, 341 tons 19 cwts.

Amount of Money £24,654 13 0

LAST SALE.—Average Standard £104 16 0.—Average Produce 7½

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal	293	£1694 18 0
English Copper	464	2292 19 7
Vivian and Sons	726	3816 16 0
Freeman and Co.	520	3912 16 9
Grenfell and Sons	1044	6459 10 1
Sims, Willyams, and Co.	587	2542 14 7
Williams, Foster, and Co.	771	3935 18 0
Total tons	4405	£24,654 13 0

Copper ores for sale on Thursday next, at Andrew's Hotel, Redruth.—Mines and Parcels.—Carn Brea 774—United Hills 282—Wheal Prosper 245—Par Consols 230—Wheal Virgin 204—Wheal Tremayne 182—Wheal Rodney 66—Trenow Consols 60—North Wheal Basset 36—Hallenbeagle 32—Wellington Mines 27—Wheal Kayle 20—West Wheal Providence 9—Wheal Maude 7.—Total, 2193 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels.—Devon Great Consols, Wheal Maria, Wheal Fanny, and Wheal Josiah, 1391—West Caradon 400—Fowey Consols 266—Wheal Friendship 229—Bedford United Mines 105—Marke Valley 103—Holmbush 90—St. Agnes Consols 68.—Total, 2654 tons.

BLACK TIN

Sold on the 30th of January, 1847.

Budnick Consols. 17 *tons* 11 *cwt.* 0 *qrs.* 9 *lbs.* Amount, £914 0 3

The sale was in five parcels—realising 57¾l., 52½l., 49½l., 47½l., and 31½l. per ton—all purchased by Daubuz and Bolitho.

THE HIGH-PRESSURE STEAM-ENGINE INVESTIGATED: AN EXPOSITION OF ITS COMPARATIVE MERITS, AND AN ESSAY TOWARDS AN IMPROVED SYSTEM OF CONSTRUCTION. ADAPTED ESPECIALLY TO SECURE SAFETY AND ECONOMY IN ITS USE. BY DR. ERNST ALBAN, PRACTICAL MACHINE MAKER, PLAU, SAXONY. *TRANSLATED FROM THE GERMAN, WITH NOTES,* BY WILLIAM POLE, F.R.A.S., *Associate of the Institution of Civil Engineers; Professor of Engineering in Elphinstone College, Bombay; and Lecturer on Astronomy and Steam Machinery to the Indian Navy.*

Parts I. and II., with Six Plates, engraved by Mr. Gladwin.

London: John Weale, 59, High Holborn.

** Part III., with Plates, will be published on the 1st of March; and Part IV., also with Plates, completing the work, on the 1st of June.

Just published, Part I.,

COMBUSTION of COAL, CHEMICALLY & PRACTICALLY CONSIDERED. With coloured plates. By CHARLES WYE WILLIAMS, Esq. *London:* Simpkin, Marshall, & Co., and J. Weale—*Birmingham:* Wrightson & Webb.

In the press,

HOW TO RECONSTRUCT THE INDUSTRIAL CONDITION OF IRELAND. A LETTER TO LORD JOHN RUSSELL. BY JAMES WARD, Esq., Author of *Railways for the Many, and not for the Few*, &c. &c. Smith, Elder, and Co., Cornhill.

NOTICES TO CORRESPONDENTS.

The Mining Journal is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all the news agents, at the Royal Exchange, and other parts of London.

"A. W." (Leeds).—The "Adventures of a Miner," as published in the *Sheffield Iris* o the 22d January, was copied from the *Mining Journal* of the 16th—forming part of the paper "On the Silver and Gold Mines of the New World."

"R. S. T." (Falmouth).—The quotation of West United Hills, at 20l., in our last Journal, was on the written authority of Mr. Paul Rabey, jun., of Winchester-street, who also assured us, that sellers could not be found at a lesser sum. From a correspondent, at Redruth, we learn that shares have changed hands there at 10l.

Received.—J. D.—O. & Co. (Coggleshall)—M. W. B. (Redruth).

THE MINING JOURNAL

And Atmospheric Railway Gazette.

LONDON, FEBRUARY 6, 1847.

The first reading of Lord George Bentinck's Bill, "to stimulate the prompt and profitable employment of the people, by the encouragement of railways in Ireland," was received with general cheers from both sides of the House; and although the bill, as brought in, will not, in its future stages, meet with Ministerial support, the popularity of the first reading evinces some indication of eventual success in a modified shape.

The mineral wealth of South Australia has now been so satisfactorily proved, and its importance acknowledged by capitalists, both at home and abroad, that the following information cannot be otherwise than interesting to our readers.

From a statement of the sales of South Australian copper ore, from 8th July, 1846, to 20th January, 1847, compiled from the Swansea Ticketing Papers, it appears that 1520 tons have been received from the Burra Burra Mine, the prices of which ranged from 31l. 9s. to 10l. 16s., and averaged 18l. 1s. per ton of 21 cwts. This mine, situated about 80 miles from Adelaide, is represented by the South Australian Mining Association, the capital of which is held by various shareholders, and for whose scrip the selling price in the colony, in August last, was 80l. for 5l. paid up.

During the above-mentioned period, 881 tons of Kapunda ore were sold at Swansea, which averaged 19l. 19s. per ton, and 210 tons of the Montacute ore. The quality of the ore from this latter mine is not quite so rich as that of the two former, neither has it been worked so energetically—the average price realised, however, has been about 17l. per ton.

When we remember that all this ore was exported in the crude state (having only, as it is termed, been dressed), and not in the form of regulus, as with Chili ores; the prices are very high—at the same time the quality of the South Australian ores varies considerably, which is likely to be the case, until smelting is adopted by the mine proprietors. Such a process is engaging their attention; for, by papers just received to the middle of August, we observed that a meeting of the colonists had been held in Adelaide, for the purpose of establishing a smelting company.

From the South Australian Company's mine at Mount Barker, 78 tons of copper ore have been received; and, although the parcel was principally surface ore, it brought 16l. 3s. per ton. Surely South Australia will, in time, become one of the most valuable dependencies of the British Crown.

In another column will be found the proceedings at the meeting of the London Joint-Stock Banking Company, at which a dividend, at the *rate* of 6 per cent. per annum, was declared, leaving a reserve fund of about 23,000l.—which circumstances naturally caused the meeting to pass off very satisfactorily.

Last week, we quoted West United Hills at 20l., upon the authority of a party stating that shares had changed hands at that price, and no sellers were to be found below—nor, in fact, were there any on the market. Having communicated this to our City correspondent, he assured us that he was a seller at 10l. per share, and accordingly waited upon our informant, and offered him shares at that price, which he declined to purchase; consequently, we feel ourselves bound to return to our former quotations, and express our utter disapprobation of the manner pursued for the purpose of getting the price quoted at 20l., for, no doubt, an interested motive. Much has been said about this mine, by parties who have purchased shares at an exorbitant premium; but, as we know nothing of the mine or its prospects, we could not venture an opinion, nor would we at any time attempt to do so, unless upon the authority of some authentic report; still we have made inquiries, and now give copies of letters received on the subject; and, therefore, leave it to those interested to judge for themselves; at the same time, we would advise that the shareholders should appoint a practical mining agent to inspect for them, and not be led away by the mere opinion of those who may be interested in speaking for or against the mine.

"I am happy to say, that the lode looks better than I expected to have seen it: 4 feet wide—no south wall—18 in. of which is saving work. I think the ore will pay the cost of driving both the levels: they have cut a lode in the north cross-cut, about 18 in. wide, composed of spar and rich lead—very promising. I shall recommend your father to open on it some little way east from the cross-course."

"At your request I have this day inspected the West United Hills, and report as follows—viz.: The adit end is extended west of Wheal Fire shaft, on the said lode, about 30 fms., and is now driving by three men and three boys, at 50s. per fm. The lode in the end is at present in a disordered state, producing a small portion of jack, but poor behind this end; the lode is, for 9 fms. in length, varying in size from 3 ft. to 4 ft. wide, composed of jack and peach, and interspersed with copper throughout—of the latter not rich. The adit end is extended north of the said shaft about 70 fms., and is now driving by six men, at 70s. per fm.; they do expect they will cut a lode in 16 fms. more driving. The stratum of ground from the shaft to the present end is not congenial for copper; behind this end, about 2 fms., there is a branch, which they call a lead lode—but small and poor. The adit end is extended west, on the mundic lode, about 80 fms., and is 9 fms. south of the said shaft; the lode is from 4 ft. to 5 ft. wide, composed of mundic and soft killas, but poor for copper. I should recommend to drive this end, and to cross-cut north, to cut Wheal Fire lode, as there is a shaft sunk from the surface to the adit, within 20 fms. to the present end, and would cut the said lode 80 fms. further west than they have seen it. Looking at the mine altogether, from its present appearances, I should not recommend any great outlay. The strata of country is by far too blue, and quite incongenial for metalliferous deposits of importance. The lode is wide, but mixed up, or amalgamated, too much with killas, and other unkindly substances."

"Your favour of the 22d came duly to hand. I have made inquiry about West United Hills Mine, which is the same as was formerly called Wheal Liverpool, and find, from

every information I can get, is not worth one farthing. I understand the party now holding the mine have been driving on, what they call, a lode, which, my informant says, is no lode—nothing more than elvan, with some branches of jack, spangled with copper intersecting it, which they have drawn to surface—but not worth any thing: so much for *two fair solid ore*. They have driven the adit a considerable distance, and sunk several adit shafts; and I should judge, from the appearance of country drawn up, a more unfavourable spot for mining cannot be found; and my advice is, that you, nor none of your friends, will have anything to do with it."

In another column will be found a report from the committee of the PENNANT LEAD AND COPPER MINING COMPANY. It is the first statement to the shareholders. Little more than six months have elapsed since the association was announced—but, young as it is in age, the managers must be old in experience; for seldom, if ever, have directors, within so short a period, voluntarily given a balance-sheet to the proprietors, which has been done in this case, previous to calling them together. It shows the simplicity and truth of the Cost-book System when carried out rigidly. Indeed, it seems without example; and if, as the report states, the working expenses only can be paid by the sale of what, under other circumstances, would be mere refuse matter, the proprietary are to be congratulated in having embarked their money in an undertaking which is making such rapid strides—not only to supersede the necessity of any call, but to produce a dividend on the capital advanced. If the the three "refuse" matters—umber, iron pyrites, and clay—be found in any quantity, and we understand there are large deposits of each, there will certainly be sources of income wholly independent of the lead ore—more especially, when it is borne in mind that these valuable substances are found on the surface, and the whole of the capital on which a dividend has to be provided, is under 4000*l*. We believe we are correct in stating, there is no other instance of iron pyrites, free from arsenic, being found in England or Wales. The PENNANT LEAD AND COPPER MINING COMPANY is one of those undertakings, which, by quiet and unostentatious procedures, advance rapidly to the accomplishment of the object in view, without resorting to the very fallacious method of rendering the shares speculative on the market by fictitious prices, with which the recent proceedings in railway affairs have made the public perfectly conversant, and shown the hollowness. We rejoice in the great success which has attended this association; for it has had to bear up against adverse times, with respect to companies, and yet has been always alive to, and ready to encourage, all scientific suggestions which could bear on the subject of mining, and tend to its advancement as a science. It is to the PENNANT COMPANY which the mining interests, as well as the scientific portion of the community, will be indebted for a trial of M. FAUVELLE's system of boring in reference to mines, and to which the public generally are obliged for the circulation of a pamphlet, headed, *Statistics of Mining*, compiled, acknowledgedly, from matter inserted in this Journal from time to time, by which the system of the cost-book has been so minutely explained, that any further misconception on the subject will be unpardonable. We hope the shareholders of the PENNANT COMPANY will be rewarded, by the enterprise proving to be another Wheal Maria.

[FROM A CORRESPONDENT.]

As the letters of Mr. TREFFRY, published in the *Cornwall Gazette*, are on a subject of considerable importance at the present moment, you will doubtless favour your readers with the principal one—a copy of which I enclose—and probably you will insert the following few remarks thereon:—The writer, as you will observe, in a most doleful strain, chaunts the requiem over the remains of the once flourishing copper produce of Cornwall—and augurs that, if a repeal or any reduction of the duties on foreign copper ore takes place, the county will be ruined, and the entire mining population annihilated. In this gloomy prognostication, I cannot concur: it is true the MINING JOURNAL advocated a protecting duty on British copper as long as circumstances warranted; but 1840 or 1842 and 1847 are vastly different. During that period changes have taken place in the legislative and commercial policy of the kingdom, with respect to its productive wealth, to which every man must bow, however he be wedded to ancient maxims, or fancy himself protected by ancient laws. While I see the formerly considered safe-guards of industry one by one swept away by the spring tides of circumstances—arising from the rapid increase of knowledge, and the advance of science—the agricultural, the mechanical, the commercial—is the *metal* trade of England to be ruined in the markets of the world, by giving way, or listening, to the unfounded forebodings of a few antiquated mine proprietors in Cornwall? I think the *vox populi* will answer—No! and that such will be the case, if the duty on foreign ores is not repealed, I have not a shadow of a doubt. Already is copper smelted to a great extent in both North and South America—it is talked of even in the West Indies—and already are we undersold in copper in the markets of Rouen and Rotterdam. At present, if rich foreign ores were admitted duty free, our smelters, from local circumstances—the proximity to coal, fluxes, &c.—could compete with all the world: but if this duty remains, foreign ores will find other smelting places—pour their produce of metallic copper into those localities, on which the Cornish miner at the present moment depends for the sale of his—and throw the smelting business into the hands of those whom the "mine protectionist" is now so anxious to avoid. I know one favourite hobby of the "protectionists" (?) is—that no locality in the world presents such facilities for smelting as Swansea; and that they could, therefore, under any circumstances, command the copper trade of the world. This *has* been the case I allow, but will it always remain so? Coals have already been discovered in numerous localities, where they were not previously supposed to exist—leaving out the vast deposits of Pennsylvania, sufficient to smelt all the copper ore the world will produce for centuries to come: extensive coal-fields are being discovered in Canada and New Brunswick, in the vast *continental island* (if I may so term it) of New Holland, Phillip Island, &c.; and it strikes me very forcibly, that the time is not far distant when the rich ores of South Australia may be exported to the peninsula of India, and smelted in the neighbourhood of the widely extended coal-fields of the Burdwan territory. Talk of protection!—the best protection to the Cornish mines is the *total* and *immediate* abolition of all duties on the importation of foreign ores. This will cause the rich ores of Cuba, South America, and South Australia, still to find their way up the Bristol Channel; and as they absolutely require the poor ores of Cornwall to render them fusible, it is a self-evident and well-known axiom, that the greater amount of rich foreign ores introduced into this country, the better for the Cornish mines, and the most likely to secure to us the smelting trade, and our present supremacy in the markets of the world. I cannot but think that the old maxim of our best writers on political economy is substantially correct—viz.: "that the wider the basis of supply and demand, on which the trade in any article of commerce is placed, the more steady will be the demand for it, and the higher the average price obtained for it." I, therefore, conscientiously say—"throw open the ports to foreign ores;" and I have no doubt the prosperity of Cornwall will be maintained.

The letters and statements of Mr. TREFFRY, which occupied no less than six columns in the *Cornwall Gazette* [the principal only of which we now publish] are in themselves perfectly clear evidence of the lamentable weakness of the cause which he is attempting to support—insinuations against, and attacks upon, the integrity of an opponent, do not always have the effect of strengthening a cause, however good; and, when I see that all Mr. TREFFRY's exertions to get up a meeting to support "protection" (?) by the loud voice of "One and All," could only muster SEVEN! I think it conclusive evidence that the voice of the county is against him, and would respectfully advise him to consider, and weigh well, the changes that have taken, and are still taking, place in every branch of political economy; and I think that gentleman will see the impolicy of sowing discontent among the mining population at a time when, above all others, unanimity is so much to be desired. The remarks of the *Cornwall Gazette* on the cruelties practiced in the Chilian mines, the reduction of the produce in 1846, and the legislative measures of 1842, are all so futile, and so founded in error, that it would be but a waste of time to reply; and I am unsatisfied that the public mind is now too enlightened to be misled by the sophistry of the antiquated notions there advocated, and that the majority of the wealth and intelligence of the country is with the free-trade movement.

Lord JOHN RUSSELL and his colleagues have no little task imposed upon them by the pressing distress of Ireland, and to devise means of substantially, and permanently relieving that ill-fated country. 'Tis true, no Minister can do impossibilities, nor is the Legislature expected, with all its wisdom and undivided sympathy, to see the Sister Island happy and prosperous, to be able of a sudden to make so desirable a change for the welfare of its population. Government can, undoubtedly, achieve a great deal by assistance in the prosecution of public works, so as to give employment to thousands—but, at the same time, the poorer classes must put their shoulder to the wheel, or feet to the spade, and evince an industrious desire to gain an honourable and independent existence by their own labour. Ireland is blessed with many resources, which would class her among the richest of countries, could but those gifts of Nature be fully developed; but, unfortunately, hitherto it has been the want of means to prosecute them, and a sufficient enterprise to embark in speculation for their improvement, by those who are the lords of the land. We have, in many of our former Numbers, strongly depicted the benefits that the peasantry would derive by capitalists entering into mining adventures, as it is fully proved that coal, iron, copper, lead, and other rich ores, even silver, are abundant in many districts, but entirely hidden within the bowels of the earth; which, if worked, would not only give a comfortable livelihood to the population of those parts, but, at the same time, a lucrative return for the money thus invested in such enterprise.

The debates in the House of Commons during the week have been nearly entirely devoted to the consideration of the most important subject, "which will be the most efficacious method of relieving Ireland from her wretched state—not only for the present, but the future." We heartily concur in the Government plan for constructing railways—a project which we have so strenuously advocated for some time past, as being one of the greatest benefits that could be given for the encouragement of industry; and, at the same time, afford ample means of employment in the completion of what has long been wanting for the development of the mineral, as well as agricultural, riches of that country. Railways will do more for the regeneration of Ireland, than any other measure that could be adopted. Mining enterprise will break forth its energy—the agriculturist will anxiously improve his land, as he will see a chance of reaping the value of his crops and his own industry; trade and commerce of every description would be extended by the facilities thus afforded by a cheap and expeditious transit of the produce to the most advantageous market—but, above all, it would furnish immediate employment, at ample wages, to the greater portion of the able-bodied labourers, now nearly destitute and starving, as it would set thousands to work, with the pleasing knowledge they would have constant employment for some time. All that is wanting to insure this result, is the capital necessary to carry out the undertakings which either have already been commenced, or about to be.

The Irish companies, in appealing to Government for aid, ask nothing in the shape of favour, as they are willing to give the legal interest for whatever advances may be made to them, with the most ample security for the repayment of the principal within a given time. As we have elsewhere observed, Lord GEORGE BENTINCK brought in his promised bill, or plan, to stimulate the prompt and profitable employment of the people, by the encouragement of railways in Ireland, on Thursday evening; and, after detailing very ably his proposition, leave was given by the House for its first reading, but with the distinct understanding, that it was one which the Government could not allow to proceed further, without announcing what measures they intend adopting on this important subject; and the second reading is appointed for Thursday next, when a long debate may be expected. His Lordship proposes that, to carry out this great object, it would be advisable that for every 100*l.* properly expended by the railway companies, 200*l.* should be advanced by Government, at the rate of 3½ per cent., the whole sum to be repaid in 20 years. The plans before the House for completing 1500 miles of railroad in Ireland would give employment to 90,000 men for four years, in earthwork, and on the line of road besides, six artificers per mile, making 9000 more, or 110,000 persons, which, with their families, would make about 550,000 souls, who would be provided for at least four years. This measure would place 1,250,000*l.* in the hands of Irish landed proprietors, for the employment of fresh labour, and 240,000*l.* in those of the occupying tenant; besides relieving the county cess from supporting 550,000 souls, it would pay 22,500*l.* a-year to the poor rates, for the support of the aged and infirm.

Some years ago Acts of Parliament were passed for 1582 miles of railway, but as yet only 123 have been completed, and not more than 156 miles additional will be finished in the present year—whilst in England 2600 miles have already been completed, and 4600 more in course of preparation; and why should not those of Ireland be carried out successfully, his Lordship remarks, if a loan was advanced? We have the greatest confidence that the present Government will do its utmost for the relief and prosperity of Ireland, and that the working classes will prove that they are not the *indolent* set the *Times* represents them to be. Give them employment, and we fear not they will gain their wants; without being dependent on benevolent assistance from this country.

CRAMPTON'S PATENT LOCOMOTIVE.—In former Numbers of the *Mining Journal* we have described and illustrated Mr. T. R. Crampton's patent engine; we learn, by the *Cumberland Pacquet*, of Tuesday, that an engine, on Mr. Crampton's principle, and built by Messrs. Tulk and Ley, left that day the iron-works at Lowca, near Whitehaven, for its future destination on one of the railways in Belgium. There is also a "monster engine" upon the same principle now in course of construction at Messrs. Tulk and Ley's establishment, destined for the London and Birmingham Railway. These engines are both on the narrow gauge principle, with 8 ft. driving wheels; and the superiority claimed for them is, that they combine entire the safety of the broad with all the velocity of the narrow gauge. The centre of gravity in these engines is much lower than in any others, and, consequently, the rocking and vibratory action is greatly reduced, as nearly its whole weight is confined between its supports. Either four, six, or eight wheels may be used on Mr. Crampton's engine without the slightest alteration in the working arrangements; and the advantages resulting from large wheels are secured by the centre of gravity being wholly uninfluenced by the size of the driving wheel. Another advantage arising from Mr. Crampton's engine is, that from the position of the boiler, the heating surface may be increased to an extent of at least 2000 ft., if required, without injuriously affecting the centre of gravity; while the angle of stability is also much greater than upon other engines. With the engine now building for the London and Birmingham Railway Company, various experiments, calculated to prove the superiority of its principle, are intended to be tried, and we shall be happy to learn the result.

NEW ERA IN STEAM NAVIGATION.—We have before referred to the inventions of Mr. Stephen R. Parkhurst, of New York, for which he has obtained patents in England, and other parts of Europe, and also in America. We have been shown, by a practical engineer, the design of a steam-engine, invented also by this gentleman, the construction of which is so simple, so powerful, and so direct, that several engineers and machinists assert that it will supersede the present steam-engines, both on land and water. For the turning of his steam-ship propellers this engine is admirably adapted; its action is direct upon each shaft of the propeller, leaving the entire hold of the vessel free of the bulky machinery which now fills so much valuable space in steamers—the boilers and coal occupying but a small space of the hold of the ship. Several features will distinguish Mr. Parkhurst's "steam-ship propeller and direct marine steam-engine," amongst which, economy of time, of fuel, and other items, will form a large saving in the present expenditure of steam navigation. It is proposed to bring these important inventions immediately into operation in this country, for which a company is now forming, with a view of testing, upon a large and practical scale, their utility. In company, a few evenings since, with a party of nautical gentlemen of New York, Boston, and Philadelphia, it was asserted that, before long, steam-ships would *leave Liverpool daily, running alternately to New York, Boston, and Philadelphia!* And why not? There are now already, upon a rough calculation at least from 300 to 400 vessels leaving Liverpool annually for the above-mentioned ports; and by the application of Mr. Parkhurst's inventions they can be readily converted into steam-ships, at a comparatively small expense.—*Willmer and Smith's European Times.*

PROGRESS OF FRENCH MINING INDUSTRY.

[FROM OUR PARIS CORRESPONDENT.]

The Minister of Marine advertises that his department will, on the 20th of February, receive at Lorient, contracts for the supply of 400,000 kils. of English cast-iron, of the description called by the French *fonte noire*, as also for 60,000 kils. of copper. On the 20th of March, contracts will be received for the supply of 150,000 kils. of French cast-iron.

Complaints are made of the manner in which the Marine Department announces its contracts, and of the manner in which it allows them to be executed. Instead of being published far and wide, its advertisements are generally crammed into an obscure corner of the *Moniteur*, in which they can only be discovered by careful search, or, perhaps, stuck up in an office of some obscure sea port, where nobody sees them but the clerks. The consequence is, that very few people are aware that contracts are to be made; and thus the Government is deprived of all the advantages of competition, whilst the privilege of supplying vast quantities of articles falls to a few favoured individuals, instead of being extended to all who deal in those articles. As regards the supply of coal and iron, this is specially true. The non-publicity of the advertisements, causes only a few, sometimes only two or three, coalowners and ironmasters to attend; and the Government is, consequently, entirely at their mercy, both as regards price and quality. If the Government fairly did its duty to the public, it would advertise all its coal and iron contracts in the principal newspapers of France, Belgium, and England, and particularly in such as—like the *Mining Journal*—are specially connected with the coal and iron industries. But there is too good reason to believe that the Government thinks more of favouring its friends than of watching over the public interests. The manner in which its contracts are executed is really disgraceful. At this very moment, some of the daily journals are complaining that an immense quantity of coal, delivered by French contractors, at some of the principal naval stations, is the vilest rubbish, utterly unfit for use. They complain, too, that the Government allows vast quantities of flints and dirt to be mixed up with the rubbish that the favoured contractors sell as coal; and that they make no difficulty whatever in giving the contractors receipts for 500 tons, when they only receive 250. In short, it appears that the most scandalous abuses are allowed to be committed in the Marine Department, with respect to the iron and coal contracts—such of them, that is, as are held by Frenchmen; for, as regards the English contractors, the strictest control is exercised over them. It is even stated, that, if by chance a person, not in the good graces of the subordinate officials, happens to get a contract, he is sure to be so disgusted by a thousand petty annoyances and insults, that he takes good care to seek no further connection with the Marine Department. All these statements will probably appear strange to you; but, believe me, they fall short of the truth. It is notorious that the manner in which affairs are conducted in the French Marine Department is most deplorable. A trial lately concluded of certain of its *employés*, for robbing it of corn, showed that fraud and theft are carried on systematically in several sea ports by all the functionaries from the highest to the lowest.

It appears, that, before the Northern Railway Company applied to the Government to be allowed to import 19,000 tons of rails from England, the ironmasters had refused to accept contracts, alleging that their existing engagements rendered it impossible that they could deliver anything like 19,000 tons within the period required. But when the Government was applied to, these very same ironmasters persuaded it not to allow the importation, alleging that they could and would supply the 19,000 tons within the time specified. It is clear, then, that they either lied to the Northern Railway Company, or they lied to the Government. To which was it?—to the Government, of course, as the company will be certain to learn to its heavy cost. The ironmasters will be no more able to supply 19,000 tons of rails, within the next four months, than they will be able to supply 19,000 tons of gold.

In a previous letter, I mentioned that the *Journal des Chemins de Fer* had taken the title of *Mining Journal*, and promised to occupy itself with mining matters. In its last number, it gives a long article on mining statistics, every detail of which appeared in the Paris letters of your Journal many months ago. I took them from the publications of the mining engineers attached to the Department of Public Works—the *Journal des Chemins de Fer*, no doubt, takes them from the same—but it is a pity, for its own sake, that it should dress up such very old information for the edification of its readers—information that many of them probably read months ago in the London *Mining Journal*. In its article, however, I find the following, which may be worth giving, though only a repetition:—The annual production of coal in Europe is 25,000,000 tons, of the value of 200,000,000 fr., supplied by England, Belgium, France, and Prussia; of iron, 1,500,000 tons, (is not this a serious mistake?), of the value of 450,000,000 fr. supplied by England, Belgium, France, and Russia; of lead, 95,000 tons, of the value of 60,000,000 fr., supplied by England, Spain, and Germany; copper, 250,000 tons, of the value of 70,000,000 fr., supplied by England and Austria; tin, 4000 tons, of the value of 12,000,000 fr., supplied by England and Saxony; zinc, quantity not stated, value 6,000,000 fr., supplied by Poland, Belgium, and England; mercury, 3000 tons, value 30,000,000 fr., supplied by Spain, Bavaria, and Austria; silver, quantity not stated, value 15,000,000 fr., supplied by Austria, Saxony, the Harts Mountains, and Prussia; and gold, quantity not stated, value 4,000,000 fr., supplied by Austria, Baden, and Piedmont. The total annual value of the mines of Europe is thus represented at 47,000,000 fr., which is, according to the calculations of the French engineers, one-half of the value of the total production of all the mines in the world.

M. Arnoux, the inventor of the new system of railways, lately noticed in the *Mining Journal*, has associated himself and certain capitalists into a company, for working the iron furnaces of Roziéres, Bourges, and les Lavoirs, with the coal pits of La Venade and La Chaux, all in the Department du Cher. The capital is fixed at 1,500,000 fr. (60,000*l.*), of which 50,000*l.* are subscribed by M. Arnoux and his friends. The remainder will not be called for unless wanted. No shares have been brought into the market, nor are likely to be; but the affair is favourably spoken of.

A letter, published in the *Journal des Debats*, says that the two new silver mines of Getoe and Skatordsirken in Sweden, the working of which was only begun 1st October last, have already yielded a great deal, and appear extraordinarily rich. The silver mines of Gustavus III. and Lodd, in the province of Stora Kopparsberg, and of Hellefous and Guldsmids Flytte, in the province of Verebro, yielded last year silver of the value of 156,980*l.*

Prices at St. Dizier, on the 28th July, were as follow:—*fers laminés*, 390 fr. to 340 fr.; *fers battus à la houille*, 400 fr.; *essieux bruts*, 405 fr. to 410 fr.; *essieux stampés*, 425 fr. to 435 fr.; *bandages per cds*, 430 fr. to 440 fr.; *fils de fer*, 64 fr. In *fontes blanches*, a bargain was made to deliver 600,000 kilos at St. Dizier at 127 fr. The demands were feeble in all descriptions; but, nevertheless, no advance in prices was expected.

DRAINAGE OF THE LAKE OF HAARLEM.—We gave in a former Number a detailed account of the monster steam-pumping engine at work in the draining of this lake, and the great success of its progress. So that no delay shall be experienced in accomplishing this important undertaking, which had been projected as far back as the time of Charles V., of Spain, nine of the principal cities of Holland have agreed to supply the sum of 9,229,000 florins, about 720,000*l.* sterling—of which amount Amsterdam enters for 5,159,000 florins; Rotterdam for 3,600,000 florins; the Hague for 295,000 florins; Utrecht for 104,000 florins; and five other towns for the sum of 71,000 florins. This sea, or better known as the Lake of Haarlem, is 15 miles in length, and about eight in width, and is situated six miles from the Northern Sea, and communicates by several canals with the ancient Rhine, and with the River Y, which is a branch of the Zuiderzee. It is, therefore, a superficies of nearly 30 square miles of water, which will have to be drained for the purpose of cultivating it, and render the adjacent lands secure from being overflown.

CONSUMPTION OF SMOKE.—A patent has been obtained by Messrs. W. G. and W. Taylor, for an invention to be applied to all furnaces constructed in the ordinary manner with open ash-pits, for effecting a more perfect combustion of the inflammable gases and unconsumed carbon. It consists, first, in the application of an exhausting and blowing apparatus; and, secondly, in a peculiar distribution or arrangement of the smoke flues, so as to be adapted to the operation of such apparatus. A fan, or blower, is applied to the flue just before the entrance to the chimney, to arrest the smoke and unconsumed gases, and force them through a flue, leading therefrom, and opening on, to the dead plate at or near the front of the fire bars. By this means the whole is passed over the incandescent fuel, where it is consumed, instead of passing up the chimney unconsumed.

Original Correspondence.

THE COST-BOOK SYSTEM—UNSTAMPED TRANSFERS.

Sir,—With reference to the letter in last week's *Mining Journal*, signed "A Friend," I may now observe, that, so far as the "*mining interests*" are concerned, there is little real practical difference between us. I am disposed to concur (and I intimated as much in my first letter), that a notice to the purser—the acting of the purser upon that notice, by substituting the purchaser's name, for that of the seller, in the cost-book—and, perhaps, for the sake of proof, a stamped receipt for the purchase money—are all that is absolutely requisite to complete a transfer of shares on the Cost-book System—more especially if the Stannary Court recognise the cost-book as evidence of title. So far we agree—but assuming that the printed forms of transfers generally used are not absolutely requisite, it does not at all follow that, *if used*, they are not subject to the Stamp Laws. "A Friend's" illustrations, by reference to transfers of ships, and warrants for delivery of goods, are rather unfortunate. Transfers of ships are *now* exempt, not by *custom*, but by express enactment (6 Geo. 4, c. 41), and *previously were subject* to the duty; and, therefore, no analogy can be drawn from them in favour of "A Friend's" argument, but quite the contrary. *Warrants* or *orders*, for delivery of goods, do not come within the terms of the Stamp Act—but a bill of sale of goods (which is nearly, if not quite, identical with these transfers) clearly does come within the Act. But "A Friend" says, that transfers of mines "*ought*," on the same ground as ships, to be exempt—but surely he will admit that "ought to be," and "are" are not always synonymous. The Legislature has expressly exempted one, and not the other—but he endeavours to get over the difficulty, by alleging that shares in mines "represent neither lands nor *chattels*, but a title to probable and imaginary benefits."

These transfers, however, are not merely "of shares in mines," but of all "*engines, tackle, tools, &c.*," often to the value of thousands of pounds, and to that extent are clearly bills of sale of chattels; and even if "A Friend's" definition were correct, he would find that they come within the comprehensive words of the Stamp Act. "A Friend" has not, with submission, "undermined," or even touched, the argument, that a transfer, *if used*, comes within the Stamp Act. I will, in return, give him an illustration. A written receipt for money paid is not necessary to evidence the payment, if you have a witness present, or if you can prove the payment by other means, as by a cross check—but if you *do use* a receipt, it must be stamped. "A Friend," in his anxiety to catch me in a "contradiction," has misrepresented my former letter—I doubt not unintentionally. He represents me to have argued, that a transfer, *without specifying a consideration*,' requires no stamp—but if he will again refer to my letter, he will find that I state expressly that such a transfer is *liable*, by positive enactment, about which there can be no doubt, to a fixed duty of 30s., not to an *ad valorem* duty—that is, where no valuable consideration passes (as on a gift), the 30s. stamp is the proper one; where a valuable consideration passes (as on a sale), the *ad valorem* stamp. He will find, also, that I expressly contended that, in *either case*, the *actual affixing* of a stamp was *equally unnecessary*, unless it should at any time be requisite to produce the transfer, as evidence in a court of justice.

If "A Friend" will read my former letter again with a little attention, and in a spirit of fairness and candour, he will find that it involves no contradiction. That these transfers, *if used*, come within the scope of the Stamp Laws, I am as perfectly convinced as that I am writing this letter—indeed, the "engines, tackle," &c., &c., put the question beyond all doubt.

And now, Sir, having shown, as I really think I did in my former letter, that the question is *practically* of little or no consequence, I might very well stop here, and would do so, if you had not allowed "A Friend" to indulge in some rather severe personal allusions; but as it is, you must permit me, in justice, to answer him, though I am very unwilling to take up your valuable space by personal matters. The "A and B" case to which he alludes was a merely supposed case, put for the purpose of showing that a necessity for stamping these documents *might, by possibility*, arise. It was not meant to be of any "particular import;" for neither in my former letter, nor in this, have I said, nor do I mean to say, one word which can justly give offence to any man, even though I have been rather *sharply* assailed by "A Friend." He admits that my former communication was "courteous and gentlemanly"—I hope it was. It was not meant to be otherwise; but will he permit me to ask him, whether it is quite consistent with gentlemanly feeling, or with Christian charity, to assume, without proof, or the slightest foundation in fact, that an individual has acted as a *qui tam* informer, and then to take that assumption as an admitted fact, and to ask, "why did you do so?"—and why did you not resort to a common law action? The *qui tam*, Sir, exists only in "A Friend's" imagination. The only proceeding that "B" is likely to adopt, is the one "A Friend" suggests. He says that I am "strong at *fence*;" but has he not showed himself strong at *offence*, and that, too, in the peaceful garb of a Quaker? On first reading his letter, my strong impression was, that his signature, "A Friend," meant not one of the society so named, but "*a friend*" *of one of the parties*. On a more attentive reading, I am ready to admit, that I may probably have been mistaken; and if so, he will, I am sure, accept my apology for having entertained the suspicion. He doubts the possibility of "B" being overreached. But suppose "B" has not quite so much confidence in himself, and that he *conscientiously believes* he has been overreached, would "A Friend" say that "B" ought to be deterred from the pursuit of justice by the fear of angry paragraphs in a newspaper, or of having hard words applied to him? I would, also, with permission, ask "A Friend," whether to deny a charge, and to endeavour to show that it is unfounded, is to "wince" under it? Is that his logic? If a party remains silent under a charge, he is taken to admit it; if he rebuts it, he winces under it. Is that a fair specimen of Quaker charity?

But by far the worst of the matter is, that "A Friend" SEEMS to exult in the supposed "wincing," as if it would be but sport to him to inflict a mortal wound, and to witness the writhings of his victim; but this, I trust, is *only seeming*. Then "A Friend" advises the abandoning of proceedings which have not been adopted, and that "B." should honourably acknowledge and retract an error, which he has not committed. However, as "A Friend" seems anxious to act the part of a peacemaker, I will undertake, that if he really be what he *signs* himself, and unacquainted with both parties, and, therefore, impartial, "B" shall submit the whole matter as far as he is concerned, to "A Friend's" arbitration. Can he expect more?—A SOLICITOR: *London, Feb.* 3.

UNFAIR CONDUCT OF A NORTHERN COLLIERY COMPANY IN ALLURING FLINTSHIRE COLLIERS FROM THEIR EMPLOY.

Sir,—The object of my addressing you, is to let the mining world know, through the medium of your Journal, the unfair means resorted to by a northern colliery and iron company, in order to supply their works with men. Some time last week two of their emissaries came to the neighbourhood of Bagillt, and the other collieries bordering upon the River Dee, and immediately set to work amongst the colliers, holding out inducements, if they would return with them, they would be able to earn higher rate of wages, at less exertion. The result of such conduct has completely paralized the well-disposed, as well as the wavering; and men prior to this *northern visitation*, in receipt of good wages, living at home with their families, in comfort and comparative ease, are now become quite unsettled, to the great injury of themselves, and the large establishments that employ them. If Flintshire had an abundant supply of colliers, the act might be passed by unnoticed on my part, but when such is not the case—in fact, I may say with confidence, many more men are required to supply the demand made for coal in this neighbourhood; and, although it is the interest of our colliery proprietors to make strong and vigorous efforts to supply their vacancies, yet in no single instance have they resorted to the mean and underhanded policy of doing so, at the expense of the neighbouring mineral counties. In conclusion, I trust that this will meet the eye of some interested in the firm alluded to, and be the means of deterring them from *committing further mischief*; otherwise, if they will persist in sending their emissaries here, I will, in my next, lay their names before the public.

Bagillt, Feb. 4. A CONSTANT READER.

ENGINE DRAUGHT AIR-BOX.

Sir,—May I ask one of your many intelligent correspondents, who has the means to try what would be the effect, with respect to engine duty, of the application of an air-box near the fire-place opened periodically, by the stroke, to admit under the grating air warmed by passing over a warm water-pipe from the condenser. The cold draught, as at present introduced, probably tends to reduce the temperature of the boiler, especially when more is supplied than is necessary for combustion, &c.

Penzance, Jan. 25. A. T. J. MARTIN.

EXTINCT ANIMALS.

Sir,—I ought to have been more explicit in a former communication, and to have said, that I entirely restrict the term *azoic* rocks to those which I believe to be the original foundation rocks of the globe—namely, gneiss and primitive limestone. They are crystalline in their structure, and entirely void of organic remains, in any shape or form. They are, moreover, devoid of rounded pebbles, and present no vestige of carbonaceous matter—superadd to this, they are *stratified* in their position, and all other rocks have been discovered to repose on them.

It is true, metamorphic rocks are azoic—such as granite, syenite, serpentine, porphyry, and basalt, with its associate members; but they are the offspring of igneous fusion—and, though crystalline, they are amorphous in form and structure, and in no ways stratified; besides, had they ever contained organic reliquiæ at any time, these would have been destroyed under the circumstances in which they were formed. Granite I believe to be *fused gneiss*. The original distinction of primitive, or primary, rocks, which formerly included, as its members, mica slate and clay slate, it became necessary to remodel, because they were not only clearly *sedimentary* in their formation, but organic remains, though very limited in number, were discovered to be imbedded in them. In a specimen of *mica slate*, from the vicinity of Bodmin, in my possession, there is an *encrinital* remain: with the exception, however, of a similar specimen in the hands of Sir Henry de la Beche, I have not heard of another—but, as Mr. Charles Lyell remarks, "one fact is as good as a thousand:" I have also specimens of clay slate from Callington, containing *terebratulæ*, &c., and others from the continent, which embed the *orthoceras gracilis*.

That there are very many animals that have been extinguished, both in genera and species, from the volume of being, is a fact that must be granted, and is fully conceded, without any reserve. They disappeared, like the beings on Mirza's Broken Bridge, after they had served the purposes allotted to them in the plans of a prospective Providence. They had performed their cycle of revolution, and their career was closed when their destiny was fulfilled. When men began to multiply on the face of the earth, there was a needs be that huge *pachydermata*, &c., should wane and vanish. Extermination, in many instances, where the range was local, would follow the extension of man's dominion; and the failure, or disappearance, of the *particular food* on which individuals fed, would, of necessity, extinguish numbers. It appears to me, however, that while many may have perished "long, long ago," not a few existed in comparatively modern times: I would particularly class in this latter category the *megatherium*, *mastodon*, *mammoth*, and "fossil elk;" and I do not see any reason why the list should not be indefinitely extended, and include the *glyptodon*, *megalonix*, *missourium*, and others, reasoning from their associated organic remains, and the circumstances under which they have been, and are, found. The remarkable state of preservation of the mammoth on the Lena, tells its own tale; the geological range of the mastodon, its association with buffaloes and elks, &c., and then its remains again commingling with those of the megatherium on the Pampas of America—the carapace of the glyptodon being found along with the megatherium—and the megatherium, in its turn, with the megalonix, &c.—all these circumstances, and many more, point to their *contemporaneous* existence; while the mastodon, from the food on which it fed having been discovered *in situ* between its ribs, clearly belonged to the present order of being, and existing races of animals. In all probability, many mighty monsters were extremely rare, and their geographical limits circumscribed—*e. g.*, the iguanodon, of which only two specimens have, I believe, been found—one in the Wealden, and another in the Kentish rag—a mere local catastrophe might overwhelm and exterminate them. The dodo is a curious example of a remarkable bird, extinguished within comparatively modern times—a painting of the bird in the British Museum, and head and leg, &c., at Oxford, are the only register of its being; and, to complete the romantic record, its bones have been found embedded in Tuffa, beneath lava in the Mauritius. Of a similar description is the Apteryx Australis; the "kiwi-kiwi" of New Zealand, whiskered like a cat, hair instead of feathers, and without wings or tail!—a strange, solitary, and *nocturnal* bird. The scepticism of the French ornithologists was, under these circumstances, quite allowable: until lately, the only specimens were in the possession of Lord Stanley—there are, however, others now in the British Museum. Many have doubted whether the bird be still alive; I have no doubt that it yet exists. I interrogated a native of New Zealand on the subject, and he recognised it instantly, under the name "kiwi-kiwi." He had seen its young, and was familiar with its habits: it is extremely rare and shy; not found in the plains, but among the mountains; and is a true troglodyte, living under rocks, or in their recesses. The enormous thigh bones, &c., of some vast gigantic bird, a short time ago received in this country, must have belonged to a creature, compared with which the ostrich was a pigmy, and its best representative would be found in that to which we owe the *ornithicnites* of America, beyond all doubt the footmarks of a bird. Mr. Charles Lyell has seen them, and whatever doubts he had previously entertained on the subject were entirely removed. Is the dinormis, or "danger bird"—the "moa"—extinct? Perhaps it still lives in New Zealand; it is even *probable* that it does obtain, in despite of the wild and warlike hordes that range that country. Those gigantic nests, which have been met with, and described, on some of the islands of the Southern Seas, the materials forming which might have supplied cart loads!—these certainly seem to be fitting nests for such a bird—the "roc" of *Sinbad* not fabulous. I cannot but think that the fossil elk (*cervus giganteus*) of Ireland and the Isle of Man, has not been extinguished so long as many may be inclined to suppose. Its fossil remains have been found pierced by an arrow; but, in decyphering the runic monument at St. Michael's, Isle of Man, I was forcibly struck with what I could not but conclude were evident representations of the *chase*, in which the *elk* was figured. We cannot antedate this runic monument farther back than the eighth century, and it may have been reared centuries more recent. That the fossil elk *then* existed in a living form, and was the object of the chase, seems highly probable. In illustration of these premises, I may well cite facts of recognised occurrence, and passing almost before our eyes, as memorable mementos of the extinction of races of being.

The beaver once built its coffer on the rivers of Scotland, as well as on the Tivy in Wales—nay, the wolf once ranged among the woods and wilds of Caledonia, and that only two or three centuries ago! In all probability, too, the bear was here indigenous, in ancient times. The persecuted otter will soon be extirpated in Scotland, as well as the beaver in North America. The kangaroo, wombat, and emu, in Australia, will soon be as though they had never existed; and even the bisons, or buffaloes of the Prairies, will, at no distant period, be numbered with the things which were. The wolf-dog of Ireland exists only now in one or two living specimens; and the wild cat, which once abounded in Lord Enniskillen's woods, has disappeared. The *bos urus* is limited to the forests of the Caucasus; and the Sable of Russia is rapidly waning before the pursuit of the huntsman—indeed, the genuine sable is almost proverbially rare, and now of great value. That well-marked and very peculiar variety of dog, the *philanthropic* dog of the great St. Bernard—the truly noble of his race—it is to be feared, will far too soon be without a living representative, and no similitude remain, save in such a specimen as that in the Museum of Berne, of the dog Barry! The timid chamois will soon no longer bound over the Alps; and the Bouquetin, albiet the edict of Prussia's sovereign, fast approaches the terminus of its existence. In my Alpine excursions I once, and only once, saw a living specimen of the Bouquetin. In our own country, the *otis major*, or great bustard, is now rare, where it once was frequent; even the Cornish chough is a rarity, and the hooded crow local and limited.

I beg most distinctly to observe, that my doubts and difficulties in geology are based on admitted facts, and the conclusions drawn from well-attested phenomena. I am considering and arraigning them on their own independent merits, and, as yet, any commentary must be entirely premature. I have never once alluded to the Biblical narrative, and I only used the word "pre-Adamite," because *geologists* had already done so. The question is simply reviewed in relation to the principles of a sound *Theism*. This question, moreover, has nothing to do with what it was competent for Infinite Power and Wisdom to have accomplished; but what the ALMIGHTY *has actually done*. I wish simply to interrogate modern speculations, by the principles of inductive truth, and the deductions of reason.

In my next I shall consider the voice of Authority in this matter, as preliminary to that of the assumed geological antiquity of the globe.

Portland-place, Hull, Jan. 25. J. MURRAY.

MAGNETIC IRON ORE.

Sir,—In reply to a letter which appeared in your valuable Journal, of the 16th ult., signed "T. G.," I beg to inform him, and your readers generally, that almost any quantity of magnetic iron ore (a sample of which may be seen) can be supplied by applying to me here. J. HEATH.

84, *Basinghall-street, Feb.* 2.

WALKER'S REVOLVING COAL SCREEN.

Sir,—Having read in your last Number some very flattering accounts of this machine, I was induced, for my own satisfaction, to visit some of the collieries named—and freely admit I was not only pleased with the mechanical way which the coals were separated, but satisfied of the advantages derived; and that very great credit is due to Mr. Walker for the introduction of this ingenious, and comparatively inexpensive, piece of machinery: the value and importance of, and the vast advantages resulting from, its practical application and performance, which I was glad to find, "as a friend to improvements," had already taken place at several of the most extensive collieries in the neighbourhood, leads to the supposition, that the question may now be considered as virtually settled, with regard to this principle of riddling coals, over that of manual labour. But it is a remarkable fact—and one which, even in the midst of our endless number of engineering improvements, powerfully exemplified the proneness of the present generation of mankind to follow in the well-trodden footsteps of their fathers, regardless of the advantages which would undoubtedly arise from the striking out a new route—that no one had before "taken thought" to give the coalowners of Lancashire, and adjoining counties, some such cheap and simple machinery for performing a multitude of the most laborious operations, to which a great portion of mankind is compelled to submit; yet, for want of a substitute, both men and women are daily employed, to a very great extent, at the collieries, in no higher capacity than beasts of burden, for the mere purpose of producing motion, in cases where the exercise of skill and intelligence are wholly excluded. Besides, human labour is at once the most costly and least effective of all the motive powers; and this truth cannot be too strongly impressed on the minds of all employers of manual labour, as a point which nearly concerns not only the management of their works, considered as a calculation of figures, but also which tends to the "further development of the moral powers of the employed, and the substitution of workmen of skill and intelligence for that great portion of the class," who at present rank no higher than living, breathing machines.

I observed, also, that Mr. W. had effected considerable improvements in machinery, for the purpose of pumping water from mines of any depth; and, as the method is extremely simple, no doubt but it will very soon be generally adopted: this plan dispenses altogether with pendulums and legs, connecting, and all pump-rods; and, what is still more, takes away no part of the pit for pump-rods, facings, &c.; and, at the same pit, he has constructed a 16-horse horizontal high-pressure steam-engine, "that winds 300 tons of coals per day from a depth of 200 yards from the surface," without the heavy fly-wheel, commonly applied to such machines: in this case the flat-ropes answers the same end—much less steam is required to perform the work—consequently, effects a very considerable saving in fuel.

I am only sorry the subject has not yet been taken up by some more competent person than myself, who would have given further explanation; nevertheless, I feel persuaded, as the cases in which these improvements might be profitably employed are exceedingly numerous, and as our general welfare is unquestionably promoted in every instance in which we succeed in coercing insensible agents into our service, Mr. W. should make known his system, as he seems disposed for every one to avail themselves of the advantages of his improvements, which I hope and believe will gradually make way to every well-conducted colliery, and eventually be productive of much public advantage.

I beg the insertion of this in your valuable Journal, and advise all parties interested to avail themselves of the opportunity of seeing the principle illustrated.—J. B. W.: *Pendleton, Manchester, Jan.* 26.

IMPROVEMENTS IN THE MANUFACTURE OF IRON.

Sir,—The iron manufacture of this kingdom is a subject of such vast importance and general interest, that, without further preface or apology, I beg to submit some remarks upon it, confining them, for the present, to the working of pig-iron into metallic iron and malleable iron—as upon these points it has occurred to me, during a long and close investigation into the subject, that much doubt and obscurity existed. I shall, at a future period, send you my ideas upon the action going on in blast or smelting furnaces. I have arrived at the conclusion, that malleable or bar-iron, is not pure metallic iron, but a mixture of such and one of its compounds, usually termed "cinder." Cinder being the general term for all waste and refuse about iron-works, I will venture to coin a new name for the peculiar cinder which enters into the composition of bar-iron. I regard it as a compound of iron, carbon, and oxygen, and propose to call it carbo-oxide, by way of distinction. This is the cinder which forms in the puddling furnace—not simply from the carbon which the pig-iron contains of itself, but it is formed by absorbing both carbon and oxygen from the atmosphere of the furnace. When iron is heated highly in a smith's fire, it becomes coated with this cinder—the surface appearing covered with a sort of glaze, the iron having absorbed carbon from the fuel, and oxygen from the air of the bellows: it is then in a welding state. This cinder, or carbo-oxide, is, in reality, the essential principle of welding—and its presence, in considerable quantity, is absolutely necessary to the free working of iron during the primary stages of the operation of forging bar-iron, and in a smaller proportion it must be retained in the finished bar. It is this which gives hardness to bar-iron; pure metallic iron alone would be too soft and pliable for the generality of purposes for which strong bar-iron is required; carbo-oxide is fusible at a high heat below the point of fusion, but at a full red heat it is very adhesive and tenaceous—hard and brittle when cold. The strength of bar-iron, as is well known, depends upon a sort of fibrous texture, which is imparted to it by the intimate and thorough working together of pure metallic iron and this compound, carbo-oxide, or cinder. In a puddling furnace, part of the pig-iron passes into the metallic state, and part into carbo-oxide; these are worked up into a ball—a porous, spongy-like mass—the metallic part supposed to be sponge, the fused carbo-oxide filling up the pores. This ball is hammered, or squeezed; part of the fused carbo-oxide is expelled—but as the mass cools down, much still remains, and continues to scale off during the hammering, or squeezing. It is then drawn through rolls, when the metallic part of the iron passes into fibres, the particles being kept separate by the carbo-oxide. Old-fashioned iron manufacturers, regarding this cinder, or carbo-oxide, as so much impurity working out of the iron, continue to use hammers, imagining they are improving their iron by driving out as much as they can; the more modern workers have now generally adopted squeezers—certainly the better plan—but still an improved implement for working together the iron and carbo-oxide is a desideratum. The requisite operations should be something like the kneading of dough. Innumerable patents have been taken out for additions in the puddling furnaces—some apparently with the view of vitrifying the cinder, to render the separation of the iron and cinder more complete; while the object of others seems to be to form a combination. I give my ideas, in the hope that some of these parties will reply, and refute or confirm them. It is now becoming a very general custom to return the bulk of the hammer scale, and waste from the rolls, &c., back to the puddling furnaces—a proof that an idea exists, that such is not altogether what the old-fashioned manufacturers have been in the habit of terming "muck," "trash," or other elegant designation. In my opinion, a perfectly-finished bar of iron is a mass of pure metallic iron, drawn out into small fibres, having the minute interstices filled with carbo-oxide, like hemp and tar in a rope, twisting being absent. For several purposes iron is required in a pure metallic state, such as for sheets, tin-plates, wire, nails, hoop-iron, &c., where toughness and pliability are the chief desiderata. Possibly some plan may be devised for converting directly the rich hematite iron ores, or pig-iron, into the pure metallic state—but by the old method of sinking, or lumping, or the more modern, more economical, and expeditious mode of puddling, to produce pure metallic iron, a large quantity must pass into cinder, and the separation of this becomes a desideratum. A patent was enrolled, a few months since, by G. H. Bovill, Esq., an extensive manufacturer of railway carriage wheels at Millwall, in which a re-heating or ball furnace is described, appearing to me admirably adapted, at the same time for the above purpose, as for the perfect separation of cinder from a mass of metallic iron. In this furnace, Kymer and Leighton's fire-grate is used, the most perfect system of combustion ever proposed. The hearth of the furnace is a mass of fuel resting either upon a series of arches, with small spaces between, or one of Kymer and Leighton's water-grates. The ignited gases from the fire are drawn down through the hearth by exhaustion; thus, while every particle of heat is rendered available, instead of, as in an ordinary reverberatory furnace, flying up the chimney without effect, iron may be kept at a high heat for an unlimited time, without any wasting, except of cinder, which will be kept in fusion, and drain off through the open hearth, leaving pure metallic iron. It appears to me, that a carefully-puddled ball, brought direct from the puddling furnace, and, without hammering or squeezing, being treated in one of these furnaces, would yield iron equal to that now made with charcoal. I would direct the attention of tin-plate manufac-

turers and others to this subject, since it must be an important consideration, now that charcoal is becoming very scarce and expensive. I will not, at present, trespass longer on your space. SCRUTATOR.

Pontyberem, Jan. 26.

ECONOMY IN FUEL—ATMOSPHERIC RAILWAYS.

SIR,—I quite agree with your correspondent, "Caloric," in last week's Journal, on the great importance of the subject of the duration of our coal measures, although his letter is evidently written to call attention to a particular furnace. It is a well-known fact, that many of the best seams in the north of England are worked out: extensive areas of the great coal-fields of Yorkshire, Staffordshire, Lancashire, Gloucestershire, Worcestershire, and Shropshire, are in a state of atrophy; while I regret to be obliged to confirm the statement of "Caloric," respecting the much-talked-of South Wales field, "that while in some localities it seems in great abundance, in others there is none workable, and in the neighbourhood of Swansea and the smelting-works it is in a galloping consumption." When we consider what the coal-fields of Great Britain have done for us—that they have made England the workshop of the world, and rendered her the most wealthy, powerful, and great in the scale of nations—it is a melancholy prospect to look forward to that period, when she will no longer possess this "philosopher's stone," and when this gigantic vegetable deposit of a geological age far remote shall be swept from our use. With such facts before us, how important is it, that every economy in its use, which can be possibly effected, should be accomplished, more particularly when we see the demand so enormously and so steadily increasing. In addition to domestic use, smelting-works, gas-works, manufactories, and steam navigation, a large field of consumption has been growing upon us during the past few years, and must very soon amount to a larger extent, than, perhaps, half the others—I mean *locomotion* on railways—and here I would suggest that, had the railway system been better understood before it had reached its present extent, a great saving might be effected. The atmospheric system, though at present in the back ground, must, I believe, eventually become general; and I have no hesitation in saying, that the entire travelling wants of the community could be carried out by either Hallette's or Clarke and Varley's systems, with one-third the consumption of coal that is now employed in locomotives. Even Clegg and Samuda's plan, on the Croydon and Dublin and Dalkey lines, is more economical in fuel than the locomotive engine—notwithstanding it is pretty well ascertained, and not denied by its supporters, that there is a loss from leakage, in consequence of the imperfection of the valve, and the unevenness of the internal surface of the tube, of something like 70 per cent. of the whole power of the stationary engine; while, with the tubes patented by the above parties, and which I believe to be the only feasible plans among the numerous ones lately brought forward, there is absolutely no leakage at all worthy of notice. Many of our *savans* have made abstruse and intricate calculations as to the probable duration of our coal seams, varying from 400 to 2000 years; but I much question if the lowest is not far above their probable existence, and whether another century will not see the approaching extinction of the produce of coal in England, unless new discoveries should be made—beneath the magnesian limestone, for instance, on which I have lately noticed some remarks. Under these circumstances, economy in fuel becomes an important national question, and one which should engage the attention of all concerned in the large consumption of coals.—CARBONICUS: *Hawtney, Feb.* 3.

THE ATMOSPHERIC RAILWAY SYSTEM.

SIR,—Having read an account of the important discussion on the atmospheric system of railway conveyance, which took place at the Society of Civil Engineers—and having previously read Mr. Robert Stephenson's report on the imperfection of the Dalkey atmospheric line, and the atmospheric system generally—I have, in an humble way, arrived at certain conclusions, which I shall be glad to place before the public through the medium of your pages. I believe the system to possess advantages, which that eminent engineer, and the society of which he is so distinguished a member, show no present signs of believing.

We are informed, at the commencement of Mr. Stephenson's report (p. 2), that the *maximum* velocity an atmospheric railway can attain, is determined by multiplying the area of the air-pump piston into its velocity, and dividing that sum by the area of the piston in the vacuum tube. "For example, at Kingstown, the diameter of the air-pump is 67 in., and that of the tube piston 15 in.; the velocity of the former is 253 ft. per minute, or nearly 3 miles an hour; and hence the velocity attainable by the latter will be about 60 miles an hour."

Were this rule applied under a similar case to water, or any other non-elastic fluid, I would perfectly subscribe to its correctness—but to an aëriform body, the principle does not to me appear equally applicable. I wish it, however, to be understood, that I make these observations, and the following remarks, with great deference to the great experience and high talent of Mr. Stephenson, and the more especially as his opinion on this point has passed unquestioned by the Society of Civil Engineers. In the discussion alluded to, Mr. Stephenson says, "In the recent Parliamentary inquiry, Dr. Robinson had given an opinion which demanded special notice." "It was not a sound practical illustration of a true theory, inasmuch as it involved some circumstances which were not possible, and excluded others which had a positive existence; and, however perfect the argument might be as a piece of abstract reasoning, it was irrelevant to the practical discussion of the subject."

Dr. Robinson appears to have sinned against the locomotive engine (the favoured machine of the day), by supposing an atmospheric tube to be perfectly exhausted prior to the train starting; and then deducing, that a steady mercurial gauge might exist, without giving any indication of velocity in the train; whereas, Mr. Stephenson says, a steady mercurial gauge is a true indicator of a train having acquired its highest mean velocity, and accordingly, from this sign, he has made his calculations on the capabilities of the atmospheric system. It shall be my endeavour to prove, that a steady mercurial gauge, and uniform velocity in a train, are both at variance with the principle of an atmospheric railway.

In the first place, if a train starts at the further end of the line from the engine, and the engine has sufficient power to subdue the whole length of the leakage of the tube, and give motion to the train, the motive power of the engine will virtually increase as the train approaches it, from the length of leakage diminishing, conjointly with the cubical contents of the tube. The rarified condition of the air in the tube will be much affected by these causes; and as they are inherent principles in the atmospheric system, a steady mercurial gauge, with the engines at work, and the train in motion, is impossible. It is also clear, that if the air in the tube is rarified with greater rapidity as the train approaches the engine, the last moment before the breaks are applied, or the train leaves the tube, if the engine be still at work, is the time the highest velocity is attained on an atmospheric line.

It has been supposed that the traction of the train and resistance of the atmosphere, balance the motive power when the train has acquired its *maximum* mean velocity, then the mercury is steady, and the train goes on at a uniform speed. Such would certainly be the case, were the tube perfectly exhausted; but while air remains, and the capability of the engine rapidly increases to reduce the tube to that condition, there is no more chance of a stationary mercurial gauge, *on sound principle*, or of the train having a uniform velocity, than there is of uniform speed in a locomotive engine, if invested with additional power at every revolution the wheels make, as the ponderous machine moves along the line.

I shall take another view of this subject, and suppose two tubes of different lengths and diameters; one of them one mile long and 30 in. diameter, and the other four miles long and 15 in. diameter. Let them be joined endways, air-tight, and a piston fitted to each—the small tube to have the piston at the single end, and the large tube the piston where the ends join. If the intermediate space between the two pistons is filled with water, and the large piston receives motion equal to 10 miles an hour, the small piston would travel at the rate of 40 miles an hour, from the area of the large tube being four times the area of the small one. In this case, the pistons would both start and arrive at the same moment. Again, suppose the small piston to be retained until the larger one is half on its way—then, if both pistons arrive at the same time, as in the former instance, the small piston must have greatly exceeded the rate of 40 miles an hour to do so; and if it arrives any time after, decidedly less than three minutes, or the time the large piston started before it, it overruns Mr. Stephenson's calculated velocity, and his formula falls to the ground. On the other hand, if a uniform velocity of 40 miles an hour is maintained by the small piston, after the large piston has attained a state of rest, on what ground, let me ask, does the prescribed velocity depend?

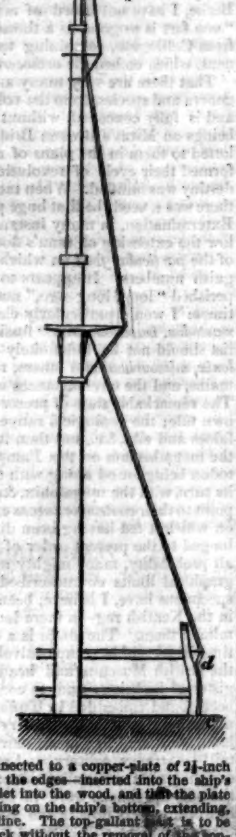
Such, in reality, is the principle of working an atmospheric railway. A large portion of the motive power is stored up in the vacuum tube, to be put forth when wanted; and this quantity of power is the start the engine has of the train, and can never be exhausted during the *race of the pistons*, unless the small one in the vacuum tube, as before observed, exceed the calculated velocity. If I am right in my theory, the algebraist will find a new formula for the velocity in question; if wrong, I regret it on account of the system, believing it the most safe, economical, and expeditious mode the ingenuity of man has yet devised for the universal application of steam power to inland public conveyance and commercial traffic.

Walcot-place, Kennington-road, Feb. 4. JAMES WHITE, C.E.

[The foregoing letter has already appeared in the *Mechanics' Magazine*; but, at the request of the author, we republish it in our Journal, and shall also afford space for any remarks our correspondents may wish to make thereon.]

COPPER WIRE ROPE LIGHTNING CONDUCTORS.

SIR,—I herewith send you an abstract sketch and description of my Patent Copper Wire Rope as Lightning Conductors, and ordered to be adopted in the Royal Navy, of which a considerable number of ships have been fitted, besides a much greater number in the merchant's service; the advantage of those conductors consists in their efficiency, economy, and easy application—the perfect continuity, by means of the copper wire line, from the *truck a*, at the top-gallant mast-head, passing down the top-gallant mast—then down the *after* top and lower mast shrouds to C, below the water-line, as shown on the annexed sectional sketch, which carries the electric fluid clear off the ship into the water, without injury; the time required for fitting a ship with this conductor, is only a few hours; and the expense, including the fitting, is 9d. per foot; if all three masts are fitted, the expenses are about 12*l.* for large class ships—if main-mast only, under 5*l.*—small vessels less in proportion.



The accompanying testimonials, from amongst several, will satisfy you of the efficiency of these conductors:—

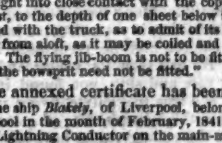
Liverpool, August 20, 1842.

SIR,—I have used your Patent Copper Wire Rope Lightning Conductors for three years, and approve of them; the ship I command was struck laying in New York—the electric fluid passed down the conductor to the water, without injury to the spars or hull. (Signed) J. C. DELANO,
Commander of the ship *Patrick Henry*.
Mr. Andrew Smith.

Explanation of the Mode adopted in her Majesty's Navy, for the application of
ANDREW SMITH'S PATENT COPPER WIRE ROPE,
As Lightning Conductors, as issued from the Admiralty, Somerset House.

Instructions for fitting ships of war with copper wire rope as lightning conductors, as follows:—

"From the truck to the cap of the lower mast-head a wire rope conductor, of ⅝-inch diameter, is



to be fitted, secure to the truck, as at *a*, leading down the top-mast shroud to the lower mast-head, and in contact with the after shroud, to the link of the dead eye and ship's side, *d*, whence it is connected to a copper-plate of 2¾-inch broad, 3-16-inch thick in the middle, rounded off at the edges—inserted into the ship's side; care is to be observed that the edges are well let into the wood, and that the plate is brought into close contact with the copper sheathing on the ship's bottom, extending, at least, to the depth of one sheet below the water line. The top-gallant mast is to be so fitted with the truck, as to admit of its being struck without the removal of the conductor from aloft, as it may be coiled and left at the top-mast head while the mast is on deck. The flying jib-boom is not to be fitted in any ship—and in small vessels (single deck) the bowsprit need not be fitted."

The annexed certificate has been received from Captain Crawford:—

"The ship *Blakely*, of Liverpool, belonging to Messrs. Taylor, Potter, and Co., left Liverpool in the month of February, 1841, bound to China, fitted with your Copper Wire Rope Lightning Conductor on the main-mast, from the main-top-gallant-mast head down to the main-rail, and from thence to the copper. The captain was made acquainted that the main-mast was protected, but the royal-mast *was not*—and for him, the first opportunity he had, to put the copper wire rope from the conductor to the truck, which he did not do. When the ship arrived off Java Head, she encountered a severe storm of thunder and lightning, which struck the main-royal-mast, and shivered it all to pieces; the lightning then descended by the conductor into the water, to the astonishment of all on board—doing no other damage to the ship. I am happy of having an opportunity of making you acquainted with the circumstances. I hope it will stimulate other shipowners to imitate the house of Messrs. Taylor, Potter, and Co., whose ships have all been fitted by me with your Copper Wire Rope Lightning Conductor." ANDREW SMITH.

Patent Galvanized Iron and Wire Rope Works, Millwall, Poplar, Jan. 27.

LIGHTNING CONDUCTORS—NAVY PATRONAGE.

SIR,—As the columns of your esteemed Journal are always open to expose and correct trickery and jobbing in scientific matters, and, more particularly, when they occur in our public departments, I venture to call your attention to the naval store departments of the dock yards of this country, which really seem to outstrip all others in this respect; and you may well imagine the absurdities they find scope for, when, with all their niggardliness and false economy in some of the branches of the Royal Navy, and particularly the manning of their ships, they manage to expend about 7,000,000*l.* of the public money per annum, a considerable portion of which might be saved, if properly administered; but when shall we hope to see it otherwise, Mr. Editor, so long as all matters connected with this department are dependent on party spirit? I could mention many instances of the ill effects produced by such causes, and will name particulars of one of them, which appears to me to be a most glaring case of misapplication of the public money by those irresponsible gentlemen.

In the year 1840, a commission was appointed to investigate and report upon the best plans for protecting ships in the Royal Navy from being struck, or injured, by lightning; this commission was principally composed of naval officers—the greater number of whom, I am sorry to say, are the most prejudiced men in existence, as well as the least scientific; and very few of them are even acquainted with the properties of the very materials their ship is composed of—as gentlemen, and fighting men, they, no doubt, stand pre-eminent. From this class of gentlemen, however, the commission in question was selected, and in that selection very strong party feeling, as usual, took the lead; and they, consequently, had their Tory and Whig plans for controlling even lightning—the one party insisted that it was the best plan to conduct the lightning right down the masts, through the ship's hold and kelson, into the water, by means of strips of copper let into the masts; the other party insisted that it was the best plan to conduct the fluid into the water, without passing through the ship, by sending it down the shrouds, and over the ship's side, to the copper sheathing below the water. The Whigs were then in power, and the consequence was, that this, like all other matters connected with the Admiralty, was carried by the power that was, and the latter plan was adopted as the best, and, in very little time, about 100 ships, as they came into port, or commission, were fitted with the lightning conductors, which carried the electric fluid out of the ship, by means of the copper-wire rope, the expense of which was about 50*l.* for a first-rate ship—so far so good, for a short time. Then came a change in the Ministry—out went the Whigs and in came the Tories—who very soon stopped any further application of the Whigs' conductors, and introduced their own plan of conducting the lightning down the masts through the ship, and this at an expense of about 500*l.* for a first class ship, or ten times that of the other party, and without even the farce of another commission to condemn the first, and against which, in fact, no complaints had been made. I have examined both plans, and must confess, that I think both are good, though I would rather not needlessly invite the lightning into the hold of my ship—but I find that the one plan costs about ten times as much as the other; and that, independently of that, the party who projected the expensive or inboard plan, receives a pension of 200*l.* per annum from Government for life. Now, Mr. Editor, I cannot help looking on that as a gross job, an outrage on science, and a wilful waste of the public money. Let us compare the costs of fitting the whole of the ships in commission on each of the plans mentioned—say that we have 300 ships in commission, and that they are all fitted with lightning conductors, and the cost of fitting them is in the proportion named—viz.: 50*l.* or 500*l.* each first class ship; take the average, large and small, at 25*l.* and 250*l.*, and you will perceive that the total cost of the 300 commissioned ships, with the copper wire-rope conductors, will be 7500*l.*; and with the other, or inboard plan, 75,000*l.* How this has escaped the notice of that great political economist, Mr. Joseph Hume, I am at a loss to imagine.

I have drawn your attention to this particular and flagrant job, in order to show to what extent mere party feelings operate on public matters, especially in the management of naval departments. I will now mention or relate a circumstance respecting the introduction of lightning conductors into this country, in which that body had no influence, in order to prove that, even amongst the most scientific men, the same feelings were allowed to operate with equal absurdity. About fifty years ago, in our Royal Society, party feelings were in a similar state as it is now in our Royal Navy; and at that period the late celebrated Mr. Benjamin Franklin, an American, made his experiments in conducting lightning, and published them. He recommended pointed conductors to be elevated above the object intended to be protected, and to be thence carried in the most direct and continuous manner down to the earth or the water. Amongst our Royal Society, it appears there were Tory and Whig plans for conducting lightning, and the feelings of the Tory fellows of the society run very strong against poor Franklin, because he was an American, which was almost synonymous with Republican, and his plans were, therefore, rejected, and in lieu thereof the Tory sapients recommended bulbs instead of points at the top of the conductors; and this bulb or Tory party proved the strongest, and their influence with the court was so great, that Mr. Pringle, who was then the president of the society, and upheld Mr. Franklin's views and plans, was driven from the chair, and the father of the present General Sir Robert Wilson, a staunch Tory member of the society, was elected to fill the "bulb chair." There are still, Mr. Editor, fellows of the Royal Society, but there are no bulb lightning conductors.

The bubble has burst so far, though for some years past our Royal Navy has been favoured with inboard conductors—whilst their less favoured and aristocratic, or overboard, conductors, have been left to the mercy and charity of our mercantile marine, who know more truly how to estimate their merits. Daniel Defoe says, "party is the ruin of many for the gain of a few." Begging to apologise, Mr. Editor, for trespassing so much on your valuable columns, I am, yours, &c.—ANTI-HUMBUG: *Jan.* 25.

VENTILATION OF VESSELS.

SIR,—I perceive, by a paragraph in your last Journal, that Mr. Mather, of South Shields, has brought before the Society of Arts a proposition for ventilating school-rooms and churches. I am doubtful whether I understand the plan proposed, from your description of it. I hope Mr. Mather, however, will favour us with details in the *Mining Journal*; and I confess I feel somewhat anxious to know wherein it differs from the principles eliminated in my pamphlet, entitled *Communications on Coal Mines*. The plan, carried into practical effect at Chatham, works admirably. The air in immediate contact with the ceiling is now perfectly pure, which was previously altogether irrespirable. A funnel-shaped mouth, imbedded in the wall, forms the orifice of a pipe, about two inches diameter, which is carried into the kitchen chimney, at the back premises. If a piece of inflamed paper is introduced into the funnel, the flame sweeps inwards with great force; and, when introduced into the throat of the pipe, the rushing sound of the air, passing through the pipe, is as loud as a smith's forge.

It is truly melancholly, in these days of dearth and destitution, to read of the destruction of cattle on shipboard, from suffocation in the hold—for instance, that which has recently occurred on board the *Lord John Russell* steamer, and others. In a storm, the hatches must, of necessity, be battened down; and, in such a case, the cattle must perish from suffocation. The preventive means are at once simple and easy: let a pipe rising a few feet above the deck, the summit *curving downwards*, so that the sea wave shall not enter from above—this pipe must pass through the deck, and descend to the *floor of the hold*—through this a current of fresh air will *constantly descend*. From *the top* of the hold let another pipe of corresponding diameter pass into the chimney of the steam-boiler furnace, or that of the cook's cabin. Thus the air will be kept constantly renewed, and entirely fit for the respiration of the poor animals confined in the hold. J. MURRAY.

Portland-place, Hull, Jan. 27.

VENTILATION OF THE SCHOOL ROOM.

SIR,—A more important subject than that of ventilation cannot well be conceived. Our hospitals, infirmaries, and unions, have no ventilation whatever—our churches and chapels, and prisons, are in precisely the same predicament. In our private domiciles the thing is not even thought of; the window is, it is true, *occasionally* opened, but that is the entire extent of the miserable provision. Reason and reflection would dictate something more, as imperatively essential in the case of the fever-ward and the sick-room; but, no! The principles of a sound and efficient ventilation, however simple and inexpensive, are either disregarded or scouted. It is to me a very serious and important question, how many of the "ills that flesh is heir to" are not justly attributable, and legitimately to be traced, to the entire absence of ventilation in the *bed-room*. The deterioration of the atmosphere, by carbonic acid exhaled, &c., is very considerable—a small per centage may be of no inferior moment, and in some peculiar cases, indeed, fatally mischievous. Carbonic acid gas acts as a narcotic poison on the brain, and *at night* the system is peculiarly susceptible: hence *malaria* is more rife at night than by day; and we need not, therefore, be surprised at the frequency of cases of appoplexy in bed. Besides, there are deteriorations from other sources than carbonic acid gas. The following incident, I confess, startled me not a little:—A gudgeon had been caught early in the morning in the river at Hebden-bridge, Yorkshire. The landlord of the inn reported to me, late in the afternoon, that the fish was still living—having remained alive, out of the water, for *twelve* hours. I had a large basin, filled with water brought from the river, and transferred the fish to it. It seemed in no ways injured, and appeared every way lively and healthy. I took it to my bed room, for the purpose of restoring it to the river on the following day, and at 11 P. M. it seemed as well as possible—I found it, however, *dead* when I arose: I cannot doubt, from an atmosphere vitiated by a respiration irrespective of its own. Lime water soon detected in the water carbonic acid gas. Some fish are very susceptible, and the gudgeon seems to be a truly sensible eudiometer.

Government, and the public, are now sufficiently awake to the high and paramount importance of having the youth of the community taught to read, and their minds thus opened to see something more than "men, as trees, walking." The introduction, too, of "ragged schools" is admirable. Their eventual importance no philanthropist, in his most honest enthusiasm, may calculate. The "schoolmaster," too long kept in the back ground, will be hereafter hailed as the true benefactor of his species! Passing strange it surely is, that we have only now seen the full force and emphasis of the expression—"That the soul be without knowledge is not good." It had the signature of Sacred Authority, and yet it is regarded, for the first time in these latter days, as a self-evident proposition.

I have already sufficiently clearly, I believe, explained the simple principles by which we obtain a constant renewal of pure and respirable air—namely, by connecting with the higher stratum of the building a funnel-mouthed pipe, terminating in a *constantly heated chimney*, for the escape of the impure and deleterious atmosphere; and a similar pipe, connected with the atmosphere without, to replace by a pure stream the noxious air displaced by the ventilating pipe—the orifice of the pipe of supply must be curved downwards, to exclude rain. Connected with this pipe might be branches for the equal diffusion of the air on every side. I advocate the exclusive use of *open fire-places*, instead of warming by cockles, or stoves of any kind, to all of which I decidedly object, because the heated iron decomposes the watery vapour of the atmosphere, setting free its hydrogen in a nascent form, and that not unfrequently contaminated with deleterious matters; the iron, moreover, decomposes or carbonizes the animal and vegetable matter with which the atmosphere is charged. The truth of these remarks is but too obvious, in the almost *constant illness* of teachers, in too many instances; and, if my memory does not deceive me, the Lancastrian school at Derby, which is heated by a cockle, has proved fatal to more than one teacher. The almost overpowering and sickly atmosphere of the school-room, few can withstand; and the noxious animal effluvia from the crowded inmates should be counteracted, not only by a correct system of ventilation, but by the judicious employment of *chlorine*, as a disinfectant, developed from a small quantity of paroxide of manganese, contained in a basin, and to which is added the requisite quantity of muriatic acid; stirring the ingredients with the stem of a tobacco pipe, and renewing the materials when requisite. Practice will soon determine the requisite strength of the evolved gas, which must be used only occasionally, and

that in the intervals between the hours devoted to teaching; or a solution of chloride of lime may be substituted—adding from time to time, as required, small portions of sulphuric acid, to liberate the gas, and render the entire quantity of combined chlorine available, which is, in ordinary cases, entirely lost—the loosely combined gas being that alone effective.

Portland-place, Hull, Jan. 28. ——— J. MURRAY.

VENTILATION OF MINES.

SIR,—May I propose the following questions, through the medium of your valuable paper, to some of your correspondents, who have lately written on the subject of the "Ventilation of Mines?" Suppose a colliery, 70 fms. deep, with an upcast and downcast shaft, the shafts being 50 ft. in horizontal sectional area, with a chimney, or stack, of the same area, upon the upcast shaft, the summit being 100 ft. above the top of the downcast shaft—I should be glad to be informed, why this should cause the air to ascend the upcast shaft? The number of cubic feet per minute that will ascend the said shaft—supposing that in the one case the air has to pass through an air passage of 9 ft. in length; and, in the other case, through 30 miles of air passages, of the same area as the two pits? I propose these questions, more especially to the gentlemen, Mr. James Cadman and Mr. Benjamin Gibbons.—H. H. V.: *Swansea, Jan. 30.*

VENTILATION OF MINES—MR. GIBBONS'S VIEWS: THEIR ERRORS.

SIR,—So early as the year 1764, M. Jars, a member of the French Academy of Sciences, in an able memoir on the Ventilation of Mines, containing sound scientific principles, pointed out, and demonstrated, the dangerous errors of the system of ventilation again proposed by Mr. Gibbons; which was generally practised at that time, but now for many years exploded.* Mr. Gibbons's proposition is to cause a disturbance in the equilibrium between the columns of air in the downcast and upcast shafts, by natural means alone, exclusive of artificial. He proposes to effect this, by erecting over the upcast, a chimney from 60 ft. to 90 ft. high. His mine, he states, on an average, to be from 62° to 64° of heat, which is about the natural heat of the earth at the depth he specifies.

Now, it is very clear, that *while the heat of the atmosphere is under* 62° *or* 64°, he will have a passage of air from the mine through his upcast, and in proportion to the cold of the external atmosphere; because the column of air *over the downcast*, the whole height of the atmosphere to a level with the surface, being colder—consequently, more condensed and heavier—than the column of air over the upcast to the surface—for the air of the chimney from the mine will be at 62° or 64°, forming part of this column—the preponderance will be over and in the downcast, which will pass through the mine to and through the upcast. *But, should the atmospheric heat in summer and autumn*, the most dangerous times for the evolution of fire-damp in the mines, *exceed* 62° or 64°, *then the whole ventilation, first becoming stagnant, will be certain to be reversed*; for, the columns of air over the downcast and upcast, to the level with the top of the upcast chimney, being equal, and the chimney now containing colder and heavier air (at 62° or 64°) than the atmosphere, which is (say) at 80°, the upcast column will become the preponderating column, from the surface to the level of the top of the chimney; and it will, consequently, become a downcast. This will always be the case whenever the atmospheric heat is greater than the air of the mine and the upcast; and, whenever the temperature of the mine and the atmosphere approximates, or becomes equal, the preponderance of one or the other column will be lost; they will become equal, the spring of action will be lost, and ventilation will altogether cease. Although Mr. Gibbons states he has worked this system well in a limited extent, he must permit me to doubt it, till he points out a new law of Nature to counteract what are only yet known, and the experience of the last 100 years. Again, how he is to draw off and discharge his 1,000,000 cubic feet of air through so small an outlet as he purposes (4 ft. or 6 ft. area) in his single pit, it is impossible to comprehend. It would take 5 hours, at 20 miles an hour, about 10 feet per second, to pass this volume of air through such a hole; and it would be impossible to get this rate, except from a difference of temperature between downcast and upcast of 90° to 100°, which no chimney of itself, even as high as the Alps, could effect. Nothing but a furnace could produce this difference of temperature; or high-pressure steam, or mechanical force, this velocity. Haswell ventilation in the north, throws into that mine more than 74,000 cubic feet of air per minute, and Wallsend nearly 76,000 cubic feet per minute; to accomplish which, through Mr. Gibbons's 7 ft. pit, it would require to pass at the rate of nearly 50 miles an hour, rendering it impossible to carry on operations in the shaft; and to transmit that quantity of air through his 4 ft. area chimney, in the time specified, would blow it to shivers. Such a force as this, necessary for ventilating extensive coal mines abounding in gas, cannot be procured by any natural process—neither height of atmospheric chimneys, nor natural heat and levity, or cold and gravity, of atmospheric columns, will effect it. Again: Mr. Gibbons does not inform us how he is to rid his mine of the carbonic acid gas, the choke-damp, and black-damp of mines, which, in the Lancashire and northern mines, occasion, not unfrequently, thousands of yards of space, sometimes discharged from its recesses to that extent in a single hour. This deadly gas, destroying in detail more than the light carburetted hydrogen gas (the fire-damp) itself—what is to be done with it? Half as heavy again (1·5277) as atmospheric air, his natural ventilation will have no more effect upon it than upon as much lead; and if his upcast be made on the crop of the mine, it will, if it were possible, render the matter more difficult—he will not get an atom of it up his natural chimney. If the most deadly poison that infests the mines will be left in them by his process, to poison the people, which, conjoined with the stagnant ventilation in equal temperatures of mine and atmosphere, or greater temperature of atmosphere than mine reversing ventilation, it will place the miners in an infinitely worse condition than Mr. Gibbons finds them; in fact, will render the mines impossible to be worked at all. Not only is the light carburetted hydrogen carried along by a full stream of ventilation by furnace ventilation, producing a current sometimes, as in Wallsend Mine, of 20 miles an hour—but by the force of such current, the heavy carbonic acid gas is also taken up and projected into the atmosphere, as the strong currents of rapid rivers project large stones into the sea. Draining off the fire-gas by top-heads, or passages cut along the top of the 30 ft. seams of the midland counties, I conceive to be very useful, but not applicable to a 5 ft. or 6 ft. seam—as such seams, extending over a great breadth of area, are frequently interrupted by dykes and dislocations of the strata, some of them, as in Monkwearmouth Mine, 100 ft. from the level. But this suggestion is not Mr. Gibbons's, but Mr. Ryan's, and made so early as 1816, to the Society of Arts, and acted on in Staffordshire and Worcestershire for many years. So was the elevated chimney, again proposed by Mr. Gibbons, in France and Germany, upwards of a century ago.

I should like to see the calculations of Mr. Gibbons, of the force he can apply by elevated chimneys, taking the various atmospheric temperatures into consideration. His project will be found, I feel assured, a mere philanthropic fancy, which experience and science, many years ago, dispersed. You will not understand me to be attempting to show the present system of ventilation as the best that can be adopted: on the contrary, I believe, great and important changes are necessary to render it what it ought to be, both for the safety of the miner, and the better extraction of coal. Comprehensive legislation, and Government inspection, will be necessary to apply, on systematic plans, the science and practical experience of the country to these great objects—nothing of the kind will ever be obtained by such propositions as Mr. Gibbons's, kindly and philanthropic though they be. Dr. Murray is in error, when he says that the furnace ventilation, now in operation, ever reverses itself; the thing is impossible—will he state the instance? THE CLANNY LAMP.

Allow me to add, that the mode in which Dr. Clanny's friends endeavour to write up his dangerous glass lamp, is not creditable either to their humanity or judgment. It will be impossible to get miners to trust their life entirely to a piece of fragile glass without gauze, which, the thicker it is, will be more liable to fracture from the heat of the flame, and the heater of a wet mine. Such a construction has been condemned almost universally, both by practical and scientific men. There is no doubt that a better light may be had through glass than gauze, or by a naked light than either, but you introduce thereby an increase of danger, which, to the commonest observer, is clearly obvious. To Dr. Clanny is the honour of first attempting to introduce a safety lamp into the mines; but, under that, it is most unjust that his injudicious friends should attempt to foist the most dangerous lamp that was ever projected into the fiery mines of Britain. The principle of Dr. Clanny's last lamp seems to me good, but not without gauze, as proposed by his friends. In a subject of this kind, it is not creditable to allow the influence of friendship to overbear the interests and lives of thousands of our countrymen. I would, in the mines under my charge, infinitely prefer Dr. Murray's mica to Dr. Clanny's glass; and so would every miner I have spoken to on the subject. *Glass lamps will never be employed in our mines*, whatever may be the fine-spun eulogiums of biased friendship, or idle theorists. The opinion, based on the knowledge of the properties of glass, is too hostile to such a lamp as Dr. Clanny's, and justly so, amongst every class of miners, to permit it.—V.

Newcastle-on-Tyne, Jan. 27. ———

* Most scientific viewers possess a copy of that document: but in case it is not within Mr. Gibbons's reach at this moment, I refer him to a translation in the *South Shields Journal on Accidents in Mines.*

IMPROVED VENTILATION OF COLLIERIES.

SIR,—We have read with pleasure papers, illustrative of the plans of Mr. Gibbons for an improved ventilation of the collieries. The subject is one of the utmost importance to the mining community. Many plans have been devised to accomplish the same object—some truly novel and amusing, while others have proved useful and safe; some have pretensions to originality of invention, while others are but variations of the projects of those who have gone before. Nearly all wish to bring it to a "Q. E. D." that their plans are fit for *universal* adoption, and every departure from them must be the result of ignorance and folly. Such conceptions, however, emanate from a conceited notion of our own ability, and betrays gross ignorance of the talents of other men. Originality of invention, and infallibility in practice, would render us truly *unique* in the present state of being. The plans of Mr. Gibbons seem to embrace scientific principles, and these have been established for "*half* a century." This we grant with pleasure; but we ask, is he the only man who has established this practice? or was he the first inventor of the plan?—we fear not. To be distinctive, what are the peculiar features of his plan? If we mistake not, they may be reduced to three in number.—1. There is the elongated flue stack, which was put in operation by the father of the late celebrated Mr. Buddle nearly a *century* ago.—2. There is the double pit, or, if you please, recess shaft—this has been for nearly the same time in use, and especially in the north of England. Mr. Gibbons, if we understand him aright, supposes that a recess in the side of the shaft, and that walled up, is better than double pits. This we deny, *in toto*. It would be only one remove from the brattice partition of the north; and that has been the means of losing many lives, by being carried out by blast.—The 3d peculiarity of this plan of Mr. Gibbons, consists in conducting the returning current at the top of the vein, or seam of coal, instead of running it parallel with the heading, &c. This plan is good and scientific, when it can be adopted, since the returning current is understood to be *always* lighter than the atmospheric air, though this be not the case *invariably*. Besides, in large veins, it is the *only proper* means to be adopted to work the colliery safely, unless the ingress and egress of the air, as well as every other part of the air-course, be of an equal size with the vein, where and when the current will fill every place or part. But what for this plan, in a vein 2 ft. thick, and rock top, and "that same vein rising at an angle of 45°?" *Each* and *every* place demands its peculiar mode of ventilating it, the same as each disease requires a varied mode of treatment. When the enemy appears always in the same circumstances, then attack him in the same way; but when he varies his mode, you must do the same, or else you are undone.

Cwm Avon, Jan. 25. ——— U. THOMPSON.

VENTILATION OF COLLIERIES.

SIR,—It appears, from your last few Numbers of the *Mining Journal*, that Mr. Gibbons has written a book *On the Ventilation of Fiery Collieries*: his plans I do not find fault with, as far as regards the Staffordshire thick coal workings, as he talks of not working to the rise of the vein more than 90 yards; and the pits in that district have generally been sunk near together, so that the plan may do very well there. But what puzzles me, is Dr. Murray's amendments on Mr. Gibbons's plan: he first tells us, that the plan is correct—"firm as the foundation of the globe, and stable as the laws of Nature;" he then pulls down Mr. Gibbons's tall chimney over his upcast flue, narrows the top of the latter, and claps upon it a double and treble cover of wire gauze, to stop the retrogression of explosive flame; he thus stops the updraft of the colliery by a damper, or lid, made of many folds of wire gauze. It should be observed, that a 30-feet vein of coal has been discovered nowhere in the kingdom but in South Staffordshire; and if Mr. Gibbons introduces a system of ventilation for this very peculiar coal, it does not follow that it is applicable to every kind of seam; and his system will not do for thin coal veins. As I have before said, there is no one system which will do for all collieries; and I will now state the proper plan for fiery thin-veined collieries. I take no merit to myself, as it is as old as I am; and it is only scientific dabblers who try to do without it. It is as follows:—Get the upcast pit on the extreme rise—viz.: the highest working part of the mine—place one of Mr. Gibbons's tall chimneys on it, the higher the better, place a well-constructed furnace at the bottom, carry proper and well-regulated air-roads from the downcast into the workings, keeping the one direction towards the upcast as much as possible, passing round every working part of the colliery; and no man need work by the glimmer of a lamp, but with a naked candle, and without fear.

Blaenavon, Feb. 2. ——— T. DEAKIN.

EXPLOSION OF STEAM-BOILERS.

SIR,—Your quotation from the *Times* recalls my reflections on an awful accident in which three lives were lost. I saw the mass of steam, like a summer cloud in density, passing athwart the sky, and arrived myself on the spot a moment afterwards, while the mangled bodies were borne from the ruins. It was an occasion for deep feeling and deep examination; and, besides those causes enumerated in the *Times*, there are surely more to accomplish these frightful disasters. They cannot arise from mere increments in the generation of steam, but must find a source in gaseous decomposition. Is the following theory impossible? Water is a non-conductor and an electric; the evolution of steam may take place with such force under extraordinary pressure, that the ebullition generates electric fluid, a stratum of water is decomposed to its explosive elements at one moment over the whole lower surface, and the catastrophe is complete. The inner surface of the boiler in this case, as is, I believe, general, presented a reddened appearance of oxidation, which both the fire and the ignited gases might combine to produce. The possibility of steam-power being the only cause cannot be entertained. A calculation was stated on the inquest, showing the force suddenly exerted as by impact, to tear the vessel, weighing 4 tons, from its seat and incumbrances, and carry it vertically into the air a height of from 200 to 300 ft., must have exceeded 658 lbs. per inch. This force was excited by no partial action in the removal of scale or other local cause, for the boiler was lifted upwards so evenly, that it fell (only reversed), having scarcely deviated in the ascent and descent more than 3 ft. from the perpendicular; it was of the dome form, with vaulted bottom, and was rent round the angle with the utmost precision, showing the power to have been *equable*, acting on every point alike. If my suggestion should not be borne out by experiment, or further scientific facts, it is, perhaps, worth an hypothesis, for we can scarcely say what the total incompressibility of water in very peculiar emergencies may not have the power of effecting.—DAVID MUSHET, Jun.: *Jan. 23.*

METHOD OF GETTING WELSH COAL.

SIR,—In the *Mining Journal* of January 16, Mr. Storey, of Benwham, Gateshead, tells us that he can drive a coal heading to the rise 100 yards in any fiery colliery, without heading, across 14 yards of pillars; and so can I, by taking air along with me, by "trumpeting," by pipes, or an artificial air-course—but that would be more expensive than the other plan, nor would it benefit such a heading, however powerful the air was passing the bottom. Now, I wish Mr. Storey to understand, that, if I did not cut across the 14-yard pillars for air, I could yet find a way to drive a single heading 1000 yards, if need be, up to the rise, however fiery it may be; but we are not entering into what we can do, if obliged to exercise our talents and ingenuity, to overcome a difficulty; but what I contend for is, that there must be air got into these headings across the pillars, at stated distances, because there would, perhaps, be 20 of them going at once in a large colliery. If a better system is known by Mr. Storey, why follow the old one? We are, however, certainly not prepared to adopt it here. With respect to the safety lamp, I never allow colliers to drive headings or get coals by it, either of the "Davy," or any other kind; I use the "Davy" lamp to explore, and can trust my life with it for that purpose. A person goes round every fiery part of the mine each morning to explore, and the men will not go to work until he has been before them; and if any places are not sufficiently safe for a naked candle, they do not go to it that day—another place is found for them. I would rather work by a naked candle than be compelled to drive 100 yards of coal heading to the rise by lamp-light: I never did work by lamp-light—I never will do it; nor ever need it be done at Benwham, or any other place. My reason is this—suppose a very large colliery, containing, perhaps, 150 men and boys, and the whole atmosphere charged with inflammable gas, and, consequently, not one naked candle must enter, every man and every boy has his lamp: now, I ask, should every thoughtless boy—aye, and many thoughtless men too—be trusted with a power which, by one careless act, hurls the whole of his fellow men into eternity? A man can walk about the mine, and take care of it; but, when working by it, it is liable to numerous accidents alike dangerous, by which the flame would come in contact with the charged atmosphere; and one accident destroys the whole, and none survive to tell who committed the injury. In repairing close places, air-ways, &c., one man should always be employed guarding the lamp, and lighting those at work. By following these precautions, I can truly say, fewer accidents from fire-damp have happened where I have had the management, than in most collieries in the kingdom.—T. DEAKIN: *Blaenavon, Jan. 25.*

IMPROVEMENTS IN SMELTING COPPER ORES.

[Specification of patent granted to James Napier, of Shackleswell, operative chemist, for improvements in smelting copper ores. Patent dated July 20, 1846. Enrolled Jan. 20, 1847.]—*Patent Journal.*

When the ore contains less than 20 per cent. of copper, and more than two parts by weight of sulphur, to four parts of copper, it is first to be calcined, and then melted in the ore furnace—the slag removed, and tapped into sand or water, in the usual manner. When the ore contains less than 20 per cent. of copper, and less than *two* parts by weight of sulphur, to four of copper, it is to be mixed with ore, containing excess of sulphur, until it is brought to the same proportion as the above, or thereabouts; this is then also to be calcined and fused, as above described. But, when the ore contains more than 20 per cent. of copper, and not less than one part of sulphur, to four parts of copper by weight, the calcining and fusing above described may be omitted, and the ore proceeded with directly, according to the method hereinafter described.

The products in the first and second cases, and the ore in the third case, mentioned above, the patentee denominates "coarse metal." To every ton of this coarse metal is added, in the metal furnace, 56 lbs. of soda ash, containing about 50 per cent. of alkali, and 56 lbs of slaked lime, and the whole melted together. When fused, the slag is to be removed, and for every ton of metal add 1 cwt. of scrap iron; this should be spread evenly over the surface of the melted mass, then the furnace door is to be closed, and the whole brought to a state of fusion; the door is then opened, and the mass well and rapidly mixed, and immediately run off into sand moulds. As soon as the mass is sufficiently set, it is to be put in pits containing water enough to cover the mass; in a short time the mass falls to powder, the surplus water is run off, and the powder heaped up still moist, and allowed to remain for 24 hours. It must then be washed with water—and for this purpose the patentee makes use of a large wooden box, having a double-pierced bottom, between which is placed wire gauze, from 25 to 35 meshes to the inch; this box is placed over what is called (by copper smelters) a tap-water pit, a vent is placed below the bottom of the box, and over the aperture of this vent, a wire gauze is fixed, of from 60 to 70 meshes to the inch; this vent is kept closed till the box is full of water—the water is then let off by opening the vent. This is to be repeated. It is then removed to the ordinary calcining furnace, and heat applied; very moderate at first, but gradually increased for 20 hours, till it is of a bright yellow heat; this heat is to be kept up for six hours longer, care being taken that the heat never rises sufficiently high to cake or fuse the powder; the powder is then withdrawn, and water sprinkled on it—then removed to the melting furnace, and to every ton of powder, 112 lbs. of anthracite coal, also in powder, and 10 lbs. of sand, are added; and, if the sample should be very infusible, a small quantity of slaked lime or flour-spar must be added as a flux. When melted, the slag is to be removed, and more of the mass added, repeating the proces till the furnace is full. The furnace is then tapped, and run into sand or water. It is generally the case that the metal is found fit for the refining furnace; but should there be any regulus, this, as it is rich in copper, is to be roasted and melted. The slag obtained in this part of the process is remelted with the ore in the ore furnace, and acts as a flux.

The claim is for the application of iron, and an alkali in smelting the ores of copper, and water for the purpose of disintegrating and decomposing the mass formed by such application.

RECENT AMERICAN PATENTS.

WATER WHEELS.—For Improvements in Water Wheels, by William Dripps, Coatsville, Pennsylvania.

Claim.—What I claim as my invention, and desire to secure by letters patent, is making the apertures in the wheel, for the introduction of the water to the buckets, to extend through the outer or cylindrical perimeter thereof, near the top, and then spirally down through, between the buckets, to the bottom thereof, in the manner described, in combination with the funnel-shaped inner rim and curved buckets, as set forth, whether the water be introduced from the inside or outside of the wheel, as before stated. I also claim the combination of the sliding frame, and segment valves connected therewith, by rods or stems of unequal lengths, for letting on the water by degrees, in the manner set forth.

STEAM BOILERS.—For an improved method of Indicating the Height of Water in Steam Boilers, by George Faber, Canton, Ohio.

The patentee says—"My invention consists simply in attaching a magnet to the axis of motion of a wheel or lever, to which the float is suspended or attached, to communicate motion by attraction and repulsion, to an index needle turning on an axis outside the boiler, and separated from the magnet by a steam-tight plate."

Claim.—What I claim as my invention, and desire to secure by letters patent, is the method herein described, or any other substantially the same, of indicating the rise and fall of water in a steam boiler or generator, by means of an indicator outside thereof, actuated by a magnet, connected with a float or any other body within the boiler, that rises and falls with the water, and connected with the magnet, substantially as herein described.

STEAM ENGINE.—For an improvement in the Steam Engine, by R. F. Loper, Philadelphia, Pennsylvania.

The patentee says—"The nature of my invention consists in rotating two crank shafts with equal velocities, and in opposite directions, by means of a connecting rod, extending from the cross-head of a steam engine to the two crank shafts, the centre of vibration of the cross-head being centrally between them."

Claim.—What I claim as my invention, and desire to secure by letters patent, is connecting the cross-head of a reciprocating engine with two crank shafts on opposite sides of, and at equal distances from, the centre of vibration, by means of a connecting rod or lever turning on the cross-head, and reciprocating with it, and taking hold of the cranks on the two crank shafts, by which they are caused to turn in opposite directions, and with equal velocities as herein described.

INTERESTING TO GEOLOGISTS.—A portion of the cutting of the Liverpool and Bury Railway, near Aighfield-house, the property of J. H. Blundell, Esq., in the township of Pemberton, affords a splendid specimen of the wonderful freaks of Nature, by the exposure of a dislocation of the coal measures, called by the miners a fault, whereby the continuity of the coal mines is broken, and one portion, or several parts thereof, thrown down into a depth of many fathoms below the natural range of coal on the opposite side of the fault. To all coal miners, and to geologists in particular, a view of a cross section of this wonderful dislocation of the mines existing in this district must be highly interesting.

TO ENGINEERS, BOILER-MAKERS, AND OTHERS.—
LAP-WELDED IRON TUBES, FOR STEAM-BOILERS.
W. H. RICHARDSON, JUN., & CO., DARLASTON, 53
STAFFORDSHIRE.
MANUFACTURE all DESCRIPTIONS of WELDED WROUGHT-IRON TUBES, for STEAM, GAS, &c., of any required length and diameter, on the new and unequalled principle of Mr. J. Roose's recent invention (patented August, 1846).—Address as above.

TO ENGINEERS AND BOILER-MAKERS. 54
LAP-WELDED IRON TUBES FOR STEAM-BOILERS.
THE BIRMINGHAM PATENT IRON TUBE COMPANY,
42, *CAMBRIDGE-STREET, BIRMINGHAM, & SMETHWICK, STAFFORDSHIRE*
MANUFACTURE TUBES under an exclusive license from Mr. Richard Prosser, the patentee. These tubes are now very extensively used in the boilers of marine and locomotive steam-engines in England and on the continent—are stronger, lighter, cheaper, and more durable than brass or copper tubes, and warranted not to open in the weld. They may be fixed in the boilers without ferules, and can be taken out and refixed without additional trouble or expense.—Address, 42, Cambridge-street, Crescent, Birmingham.
LONDON WAREHOUSE,
68, *UPPER THAMES-STREET.*

IMPROVED LIFTING JACKS, 55
MANUFACTURED BY
GALLOWAYS' AND CO.,
KNOTT MILL,
MANCHESTER.
IMPROVED RATCHET JACK. HALEY'S PATENT LIFTING JACK.

*** The attention of parties who employ
Lifting Jacks,
is respectfully requested to the superiority of those annexed, over those hitherto in use.

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

MONDAY.....Great South Tolgus Mining Company—offices, Liverpool, at One.
TUESDAY.....Wheal Seton Mining Company—at the mine.
London and Greenwich Railway—offices, at One.
Eastern Counties Railway—London Tavern, at One.
WEDNESDAY...Chester and Holyhead Railway—offices, at One.
Great North of India Railway—offices, at Twelve.
THURSDAY.....Southampton & Dorchester Railway—South-Western Terminus, 4 p. Three.
Newmarket and Chesterford Railway—London Tavern, at One.
British Rock and Patent Salt Company—offices, at One.
Northern and Eastern Railway—Bishopsgate Station, at One.
Redruth Consols Mining Company—at the mine.
FRIDAY.....Hibernian Mining Company—offices, at One.
London and North-Western Railway—Euston Station, at Twelve.

[*The meetings of Mining Companies are inserted among the Mining Intelligence.*]

LONDON AND COUNTY JOINT-STOCK BANKING COMPANY.

The annual meeting of this company was held on Thursday last, at the London Tavern, and was numerously attended.

WILLIAM HAWES, Esq., in the chair.

The SECRETARY read the notice convening the meeting.

The CHAIRMAN commenced, by observing how much pleasure it gave him to meet them again at their annual meeting, more particularly as he did so under the prospect of continued prosperity, and he might now say, of the permanent prosperity of the company. He attributed its success to those measures which, in the discretion vested in the directors, they had thought fit to take, in order to promote the interests of the proprietors. There was no doubt that, if they looked either to the character of the business done, or to the number of customers, they would find equal satisfaction. The consequence of this was, the directors could submit a dividend after the rate of 6 per cent. per annum. (Hear, hear). There would also be a large sum remaining to be added to the reserve fund, making that fund nearly 23,000*l.* (Hear, hear). This was an amount fully proportionate to the capital of the company, and equal to that contributed by other establishments in London. They had every year progressed, and obtained the result they had anticipated. The aspect of things, he admitted, at the present moment, was rather gloomy; but, by a little foresight, many which now appeared threatening, would, he had no doubt, be avoided. As to this concern, the directors had taken the most precautionary measures for its security; and the other banks had so managed, that they were prepared to meet any drain which might arise from the extraordinary demand for the supply of food for this country and Ireland. (Hear, hear). The directors were anxious that every information should be given to the proprietors; and if any more detailed information should be required, he would be happy to answer any questions. In conclusion, he begged to mention with regret that Mr. Barratt had, from ill-health, resigned the office of auditor, which he had held for many years, during which he was most assiduous to his duties. He hoped the gentleman they would now fix upon in his place would look as closely into the affairs of the bank as Mr. Barratt had done. With these observations he would call on the secretary to read the report.

The SECRETARY then read the report and balance-sheet.

A PROPRIETOR having made some allusion to the reserve fund not being adequate for losses,

The CHAIRMAN stated, in reply, that the reserve fund was what remained after the providing for these losses. Bad debts must happen occasionally to such concerns as this; and this reserve was what remained after they were discharged. (Hear, hear.) If they looked to the London and Westminster Bank, they would find that, with four or five millions of capital, they had only a reserve of 88,000*l.* They would, therefore, judge whether the reserve they had now attained to was not in a fair proportion to other establishments. The losses, he was happy to say, had been much less; they had only averaged one-third of those incurred in the three previous years.

The report was then adopted unanimously—for which, and resolutions passed, see our advertising columns.

Messrs. Springett, Joyner, and Jervis, were re-elected directors; Mr. Lance was chosen the auditor, in addition to Mr. Dinkin. A vote of 2000*l.* for the services of the directors was then unanimously passed.

After some further discussion, a vote of thanks was passed unanimously to the chairman and directors of the company.—The CHAIRMAN returned thanks.—The thanks of the proprietors were then voted to Mr. Luard, the general manager, inspector, secretary, branch managers, and also to the accountant of the company, when the meeting adjourned.

HALLETTE'S ATMOSPHERIC RAILWAY AND CANAL PROPULSION COMPANY.

The first annual meeting of the shareholders in this company was held at the offices, Winchester House, Old Broad-street, on Monday last, the 1st instant, J. BRIGHTMAN, Esq., in the chair.

Mr. G. THOMAS (the managing director) having read the advertisement convening the meeting, and the minutes of the last meeting, read the following—

DIRECTORS' REPORT.

In conformity with the provisions of the deed, the directors have called a general meeting of the proprietors to receive a report of the state of their affairs, to elect three directors in the place of those who go out by rotation, to appoint three auditors, and to transact such other business as is requisite, agreeably to a circular note which has been read to the meeting. Your directors have availed themselves of every opportunity to negotiate for the use of the patent, making overtures in some instances, and in others giving their best attention to propositions which were made to them, but as yet they have not been able to conclude any agreement. They are, however, at this moment in communication with a railway company, which has obtained its Act, and will continue to use their best efforts to obtain an application of the system, which they firmly believe is the only step wanting to ensure the success of the company. Very little, if any, further development of the atmospheric principle has been made lately by those who are engaged in prosecuting it in this country; but it is highly probable that a few months will establish the views of its advocates, and prove to the world that the public can be carried with greater speed, safety, comfort regularity, and economy, by atmospheric propulsion than by locomotive traction. All that may be accomplished in this way will be so much done in demonstration of the advantages of Hallette's system, and the shareholders in this company will ultimately reap all the benefit acquired by the experience of others, without incurring any expense in experiments. Once establish the soundness of the principle of atmospheric propulsion, and the mode of its application will doubtless be quickly discerned to be in favour of Hallette's system. Various schemes for the application of atmospheric propulsion to railways have been announced to the public within the last 12 months; but from the best information which your directors have been able to procure, there has been no project in the least degree likely to compete successfully with Hallette's invention. Your directors consider that it will be most advisable to await quietly the course of events, rather than engage in any further active measures, which would incur expense. The salary to the company's engineer ceased on the 31st Aug., when Col. Williams resigned the appointment. All the directors have continued to give, gratuitously, from the commencement, their best services on every occasion, and in every way in which they were likely to be useful. The number of attendances is now submitted, in conformity with the provisions of the deed—viz.:—Number of board meetings, 77; total number of attendants thereat, 357. And every economy has been practised. The expenses of secretary, clerks, and office rent, are now limited to 25*l.* per quarter; and any further reduction that may be practicable shall be effected from time to time. At the extraordinary general meeting, held on the 9th July, the directors submitted a resolution for a call of 4*s.* per share. They have, however, beenlitherto unwilling to make any demand upon the shareholders, in the hope that the sale of licences to use the patent would have realised sufficient funds to meet their engagements, and accordingly continued to pay interest for an advance of 500*l.* made by their bankers, as reported to the meeting on the 9th July last. The directors are now of opinion that it is desirable to pay off that loan and to discharge all their other liabilities, which together amount to the sum of 2594*l.* 16*s.* 10*d.*, as shown in the balance-sheet, signed by the auditors, made up to the period prescribed by the deed—viz., 30th Sept., and a supplementary statement to be now submitted to the shareholders. A call of 2*s* per share on all the shares at present represented, will, it is hoped, meet all the engagements of the company, and leave a balance in hand to defray office expenses, printing, &c.; and of which call the directors propose to issue notice forthwith. The directors, with reference to their letter of 5th Dec., 1845 (which immediately followed the original allotment of shares), stating the limitation of call to the deposit—viz., 20*s* per share, think it right here to explain that this was calculated upon the supposition that the whole 20,000 shares comprising the capital would have been taken. In this, however, from severe money pressure about that period, and other causes, the result has been, the directors regret to say, otherwise; and even out of 14,000 shares applied for, only 8640 were actually paid on. This deficiency in the number of shares will, the directors are confident, at once show to every shareholder the necessity of the present call, which it is hoped will, after this explanation, be promptly responded to. Mr. Brightman, Mr. Chambers, and Mr. Henry, retire from the direction by rotation, but are eligible for re-election, and are candidates. Mr. Chambers, Mr. Dow, and Mr. Welch, vacate the office of auditor. The directors still entertain the same confidence in the merits of the invention, and will not abate in their endeavours to make it profitable to the shareholders.

The CHAIRMAN said he did not think it was necessary for him to trepass upon their time, as he could add nothing to the information contained in the report. The atmospheric system had not yet made its way, but the directors were as fully impressed as ever of the decided advantages of their system: he should be glad to give every information in his power, and answer any questions.

Mr. GEORGE THOMAS said that, with respect to that part of the report, which held out hopes of their plan being adopted by a railway company in the north, he would just observe, that he had received a communication on Saturday last, signed by four of the parties, informing him they were system of atmospheric propulsion. He further stated, that the engineer is only waiting for the co-operation of an influential party then in Manchester, when they would again communicate, with a view to adopt Hallette's the company in question had several times visited the experiment at Peckham, and was so satisfied of the advantages of the plan, that he had recommended its adoption to the directors.

A PROPRIETOR inquired, if any modification as to terms had been assented to by the Hallette family, as he thought it strange that they should not take a more stirring interest in an invention which they considered so valuable?—The CHAIRMAN considered it probable that they were waiting to see what the company would do; there had been no communication with them lately. In the course of further conversation, it appeared that, out of the original 20,000 shares, 14,000 had been allotted, but only 8000 paid upon, which, with 5000 taken by Mr. Hallette, made an issue of 13,000; and the directors assured the proprietors the remaining 7000 should not be issued unless to the manifest advantage of the company—yet it was advisable not to cancel them, as it was highly probable the company just under notice, or any other which might adopt their patent, would wish to join in the company's interests at par.—The report was then adopted; the three directors and two auditors going out of office were re-elected, and a vote of thanks passed to the chairman and directors, when the meeting separated.

SOUTH EASTERN NORTH KENT LINES.—We are informed that the last contract for the construction of the North Kent line, was on Tuesday let by the directors of the South Eastern Railway Company to Mr. John Brogden, jun. This contract extends from the Grand Surrey Canal to Erith; from thence to Rochester the line had been previously contracted for—viz., from Erith to Gravesend, to Messrs. F. and T. Tredwell; and from thence to Rochester, including the filling of the canal and widening of the railway, to Mr. Brogden, jun. There is little doubt that the entire line from London to Rochester will be open for public traffic within a year. We understand that there has been great competition among the contractors for these works, which are under the superintendence of Mr. Robert Stephenson and Mr. George Bidder.

METROPOLITAN AND SUBURBAN CEMETERIES SOCIETY.—A Parliamentary Commissioner has just terminated the preliminary inquiries for the first bill introduced by this company, for a cemetry of 150 acres east of London—the estimates of which being proved showed a return of a net dividend per annum of from 12 to 20 per cent., as the ground may be filled up in 250 or 350 years. The Standing Orders were declared to be complied with on Saturday; and Messrs. Masterman and Lyall, Members for the City of London, have undertaken the charge of the bill through the House of Commons.

BIRMINGHAM, WOLVERHAMPTON, AND DUDLEY RAILWAY—FIRST CALL of TWO POUNDS EIGHTEEN SHILLINGS per share.

The directors having passed a resolution, making a CALL upon the shareholders of TWO POUNDS EIGHTEEN SHILLINGS on each share held by them respectively—such call to be paid on the 10th day of February, 1847—the shareholders are hereby required to pay such call, on or before the day appointed, to one of the under-mentioned bankers; and in default thereof they will be charged with interest, at the rate of 5 per cent. per annum, from that day until the said call be actually paid.

The Birmingham Banking Company, Birmingham; Messrs. Attwoods, Spooner, and Co., Birmingham; or at their London Agents, Messrs. Jones, Loyd, and Co., for the Birmingham Banking Company; Messrs. Spooner, Attwood, and Co., for Messrs. Attwood's and Co.; and Messrs. Moss and Co., Liverpool, for the Birmingham Banking Company.

A circular will be sent to each shareholder, which must be deposited at the bankers when the call is made. By order of the board of directors,

JOHN WM. KIRSHAW, Secretary.

34, Bennett's-hill, Birmingham, Jan. 15, 1847.

BRISTOL AND EXETER RAILWAY COMPANY.—Notice is hereby given, that the next HALF-YEARLY GENERAL MEETING of the proprietors of this company will be HELD, in pursuance of the Act of Parliament, at the White Lion Hotel, in the city of Bristol, on Thursday, the 4th of March, at Twelve o'clock, for the election of four directors, who retire by rotation, and for other affairs.

The Chair will be taken at One o'clock precisely.

JOHN BROWNE, Deputy-Chairman.

Power will then be asked of the proprietors to subscribe the sum of £7500 towards the capital of the Plymouth Great Western Dock Company; and to take 4000 half-shares, of £25 each, in the South Devon Railway, to which the Bristol and Exeter Railway Company are entitled, as proprietors of 4000 whole shares.

The retiring directors may be re-elected.

The transfer books will be closed on Tuesday, the 23d of February, and not be re-opened until after the said general meeting, on the 4th of March.

Agreeably to the third resolution of the general meeting of the 3d of September, the dividend for the half-year ending on the 31st of December last will be remitted to those shareholders who stand registered on the said 23d day of February.

Shares in arrear do not entitle the holders to vote, nor are proxies valid, unless lodged with the secretary five days, at the least, before the meeting.

By order of the board of directors,

Bristol Office, 30, Bread-street, Feb. 1, 1847. J. B. BADHAM, Secretary.

BRISTOL AND EXETER RAILWAY COMPANY.—Notice is hereby given, that a SPECIAL GENERAL MEETING of the proprietors of this company will be HELD at the White Lion Hotel, Broad-street, Bristol, on Thursday, the 11th day of March, 1847, at One o'clock in the afternoon, when drafts of the following Bills will be submitted to the meeting:—

1. A Bill to enable the Bristol and Exeter Railway Company to make a Branch Railway from the parish of Lyng, near the town of Taunton, to join the Wilts, Somerset, and Weymouth Railway, near Castle Cary, in the county of Somerset.

2. A Bill to enable the Bristol and Exeter Railway Company to make a Branch Railway from the Bristol and Exeter Railway, in the parish of Bleadon, to the city of Wells, the town of Glastonbury, and the parish of Street, all in the county of Somerset.

And an agreement for the purchase, by the Bristol and Exeter Railway Company, of the Exeter and Crediton Railway, will be submitted for confirmation by the said proprietors.

JOHN BROWNE, Deputy-Chairman.

J. B. BADHAM, Secretary.

Railway Office, 30, Broad-street, Feb. 4, 1847.

BRISTOL AND EXETER RAILWAY:—CONTRACT FOR WORKS—YEOVIL BRANCH.

Notice is hereby given, that the directors of the Bristol and Exeter Railway will RECEIVE, on Friday, the 26th of February next, at Twelve o'clock, at their office in Broad-street, Bristol, TENDERS for the execution of CONTRACT No. 1, of the Yeovil Branch, extending from the Pen-mill-road, at Yeovil, to a point where the branch crosses the turnpike road from South Petherton to Ilchester, being a length of 6 miles and 30 chains, comprising all the usual work of excavation, embankment, ballasting, bridges, culverts, &c.—Drawings and specifications will be exhibited at the engineer's office, at No. 1, Delahay-street, Westminster, on and after the 5th day of February next, between the hours of Ten and Five, where printed forms of tender may be had, as well as at the company's office in Broad-street, Bristol.

Sealed tenders, marked "Tender for Works," and with the name of the party on the outside, should be sent to the secretary, before Eleven o'clock on the said 26th day of Feb.

The directors will not consider themselves bound to accept the lowest or any tender.

The contractors will please to attend at the office, in Broad-street, Bristol, at Twelve o'clock, on Friday, the 26th of February. By order of the directors,

Bristol Office, 30, Broad-street, Jan. 15, 1847. J. B. BADHAM, Secretary.

CALEDONIAN RAILWAY—LOANS ON DEBENTURES.—The CALEDONIAN RAILWAY COMPANY are prepared to RECEIVE TENDERS for LOANS on DEBENTURES, in sums of not less than £500, for three or five years—the interest to be PAYABLE half-yearly in Edinburgh, Glasgow, London, Liverpool, Manchester, or Bristol.—Tenders to be addressed to the secretary, Edinburgh.

By order of the directors,

J. BUTLER WILLIAMS, Secretary.

Caledonian Railway Office, 122, Princes-street, Jan. 26, 1847.

CORNWALL RAILWAY—HALF-YEARLY ORDINARY MEETING.—Notice is hereby given, that the HALF-YEARLY ORDINARY MEETING of the shareholders in the Cornwall Railway Company, will be held in the Assembly Room, at Truro, on Tuesday, the 23d day of February next, at One o'clock precisely. The Transfer Books will be closed on the 9th day of February next, and will not be opened until after the said Half-Yearly Ordinary Meeting.—Notice is hereby further given, that after the business of the said Half-Yearly Ordinary Meeting, on the 23d day of February next, shall have been transacted, the meeting will be made SPECIAL, at which meeting there will be submitted to the proprietors present for their approval a draft of a certain bill proposed to be introduced into Parliament in this Session with the title, and for the purposes following—that is to say:—"A Bill to authorise an alteration in the line of the Cornwall Railway, and to amend the Act relating thereto, and for other purposes."

J. T. TREFFRY, Chairman.

Cornwall Railway Office, Truro, January 20, 1847. W. H. BOND, Secretary.

CAMERON'S COALBROOK STEAM COAL AND SWANSEA AND LOUGHOR RAILWAY COMPANY.

OFFICES, 2, MOORGATE-STREET, LONDON.

Notice is hereby given, that a DIVIDEND, at the rate of 12½ per cent. per annum (free of income tax), for the half-year ending 31st December last, will be PAYABLE to the proprietors, at the company's offices here, on and after Wednesday, the 3d Feb. next.

By order of the directors,

A. C. HOWDEN, Secretary.

January 30, 1847.

WEST CORNWALL RAILWAY.—NOTICE OF CALL.—FIRST CALL OF TWO POUNDS PER SHARE.—Notice is hereby given, that the directors of the WEST CORNWALL RAILWAY COMPANY have this day made a CALL of TWO POUNDS per share upon the respective shareholders in the said company, and have appointed such call to be PAID on or before Monday, the 22d February, 1847, to either of the under-mentioned bankers—that is to say—

To Messrs. Denison, Heywood, Kennards, and Co., 4, Lombard-street, London; or Messrs. Vivian, Grylls, Kendall, and Co., Helston, Cornwall.

By order of the board,

FREDERICK LE MESURIER, Secretary.

35, Broad-street-buildings, London, Jan. 20, 1847.

TO RAILWAY CONTRACTORS, COALOWNERS, MINERS, AND OTHER PARTIES USING LONG RANGES OF PIPING.

CHARLES MACINTOSH & CO.,

SOLE MANUFACTURERS OF THE PATENT VULCANISED INDIA RUBBER WASHERS, of any description or figure, for Joints in Steam and Water Pipes.

C. M. & Co. can confidently recommend the washers, having received from engineers and others, who have used them, strong testimonials in their favour. These washers are easily applied to pipes of every description, and of any bevil; and any unevenness on the surface of the flanges, instead of being objectionable, as in the ordinary mode of making joints, is, in the case of the Vulcanised India Rubber Joints, a positive advantage, especially where great pressure is used. These joints will sustain no injury from violent tremor in pumping, or otherwise.—Manchester, Jan. 20, 1847.

IMPORTANT TO ENGINEERS, MANUFACTURERS, RAILWAY AND STEAM-BOAT COMPANIES.

Messrs. W. & C. MATHER beg to call the attention of the ABOVE PARTIES to their IMPROVED PATENT ELASTIC METALLIC PISTONS.

The PRINCIPAL FEATURE and ADVANTAGE of THIS IMPROVEMENT is—

1. Its great ELASTICITY and SELF-ADJUSTING PROPERTIES, which enable it to yield to any inaccuracy of the cylinder, whether oval or taper, and to move with the least possible friction.

2. Its extreme SIMPLICITY and LIGHTNESS, consisting of only two pieces of metal having the vertical and lateral pressure in due and proper proportion, independent of each other.

3. It takes the LEAST possible SPACE, and is well adapted for air and water-pumps, as it allows of a larger water way.

Messrs. W. & C. MATHER feel confident that it is the BEST ELASTIC METALLIC PACKING yet known, for the above reasons.

Models may be seen at the Salford Iron-Works, Manchester; at W. Barker's, engineer, Newton-Moor; and also at J. Mather's, engineer, Beaufort-street, Chelsea, London.

LONDON JOINT-STOCK BREWERY COMPANY.

(PROVISIONALLY REGISTERED.)

Capital £300,000, in 25,000 shares, of £20 each.

Deposit 2*s.* per share, being the highest amount allowed by Act of Parliament until complete registration, when a call of £1 per share will be made.

The principal objects of this company are to supply a perfectly pure and genuine malt liquor to the public, combined with such moderate charges as must ensure a most extensive and profitable business.

Our empire in India offers inducements of no ordinary character for the establishment of an immense business of a highly lucrative nature, independently of its most probable permanency and comparative freedom from risk.

In South America, the West Indies, and several parts of the European continent also, the malt liquors of this country are beginning to be appreciated and sought after, such a profitable and extensive trade may be confidently anticipated in those parts.

Arrangements are in progress, which, when completed, will ensure an extensive and highly lucrative trade to the East and West Indies and to South America, thereby securing at once a handsome per centage to the shareholders. Arrangements are also in progress which will secure an extensive home trade.

It is certain there is not in the market, at the present time, nor has there been for many years past, any investment likely to produce such beneficial results to those concerned in it as the present, as, after a most careful and deliberate estimate, by talented and competent persons, of all the outgoings, &c., it is proved to demonstration that the net annual dividend will not be less than 40 per cent. on the capital.

Under these circumstances, the promoters of this undertaking confidently lay their plans before the public, and will be most happy to give every information in their power; and, as soon as the committee of directors is formed, more detailed particulars will be published.

In the meantime all applications for shares, or inquiries may be made to Messrs. Chauntler and Westwood, 8, Gray's Inn-square, but no applications for shares will be attended to unless accompanied by most respectable references.

LONDON AND COUNTY JOINT-STOCK BANKING COMPANY.

PARENT ESTABLISHMENT, 21, LOMBARD-STREET.

DIRECTORS.

WILLIAM HAWES, Esq. Chairman.

EMANUEL COOPER, Esq., Deputy-Chairman.

William Cory, Esq. — Swynfen Jervis, Esq.
James William Deacon, Esq. — John Cuthbert Joyner, Esq.
William Evans, Esq. — Richard Springett, Esq.
John Griffith Frith, Esq. — Clement Tabor, Esq.

John Wheelton, Esq.

GENERAL MANAGER.—Henry Luard, Esq.

At the annual meeting of proprietors, held on Thursday, Feb. 4, 1847, at the London Tavern, Bishopsgate-street, the following report for the year ending Dec. 31, 1846, was read by the secretary— W. HAWES, Esq., in the chair.

REPORT.

Your directors, in laying before the proprietors the financial statement of the London and County Bank for the last year, have the pleasure again to report the continued prosperity of the company.

Your directors recommend the payment of a dividend, at the rate of 6 per cent. per annum, on the capital stock of the company (free from income tax), for the half-year ending the 31st Dec., 1846; and that the surplus, £1884 17*s.* 7*d.*, which remains after the payment of the dividend—the expenses of the establishment, the interest on current and deposit accounts, the rebate of bills not due, and the allowance for bad and doubtful debts—be carried, as heretofore, to the credit of the reserve fund, which will then amount to £32,942 1*s.* 11*d.*—having been increased in the past year by the sum of £2958 4*s.* 7*d.*

It is with regret your directors announce the retirement of Jonathan Barrett, Esq., from the office of auditor, on account of continued ill health. This circumstance will render it necessary for the meeting to elect another gentleman to discharge that responsible duty.—The directors retiring from the board, by rotation, are

RICHARD SPRINGETT, Esq., J. C. JOYNER, Esq., SWYNFEN JERVIS, Esq., who have each given notice of their intention to become candidates for re-election.

BALANCE-SHEET OF THE LONDON AND COUNTY BANKING COMPANY, DECEMBER 31, 1846.

Dr.	
To capital	£200,000 0 0
Reserved fund	30,957 2 2
Customers' balances	1,585,535 10 11
Net profit for the half-year, after payment of £2603 10*s.* for interest to customers	7,903 17 7
	£1,817,396 12 10
Cr.	
By cash in hand	£316,830 17 6
Securities, discounted bills, &c.	1,486,213 3 4
Bank premises, freehold and leasehold	34,306 14 11
Preliminary expenses, expenses of establishing and purchasing branches	30,035 13 7
	£1,817,396 12 10

Dr. PROFIT AND LOSS ACCOUNT.	
To half-year's dividend, at 6 per cent.	£ 6,018 0 0
Balance carried to guarantee fund	1,884 17 7
	£7,902 17 7
By net profit for the half-year	£7,902 17 7
	£7,902 17 7

I, the undersigned, have examined the foregoing balance-sheet, and have compared the items it comprises with the several books and vouchers relating thereto, and have found the same to be correct. (Signed) JOHN DONKIN,

London and County Bank, Jan. 27, 1847. One of the Auditors.

The foregoing report having been read by the Secretary, the following resolutions were severally proposed, and unanimously adopted.

1. That the report be received and adopted, and printed for the use of the proprietors.

2. That a dividend at the rate of 6 per cent. per annum be declared upon the capital stock of the company, clear of the income-tax, for the past half-year, payable on and after Monday, the 15th day of Feb. instant.

3. That the balance of £1884 17*s.* 7*d.* remaining to the credit of the profit and loss account, be carried to the guarantee fund.

4. That the thanks of this meeting be given to the directors for the able manner in which they have conducted the affairs of the company during the past year.

5. That the sum of £2000 be annually placed at the disposal of the directors, as a remuneration for their services.

5. That the thanks of this meeting be presented to the auditors of the company, Jonathan Barrett, Esq., and John Donkin, Esq., for their services during the past year.

7. That John Donkin, Esq., and J. H. Lance, Esq., be elected auditors for the current year.

8. That the thanks of this meeting be presented to Henry Luard, Esq., the general manager, the inspector, the secretary, the respective branch managers, and the accountant, for the zeal and ability with which they have discharged the duties of their several offices.

The ballot for the election of three directors having been proceeded with, the following gentlemen were unanimously elected: Richard Springett, Esq., J. C. Joyner, Esq., and Swynfen Jervis, Esq. (Signed) W. HAWES, Chairman.

The chairman having left the chair, it was unanimously resolved:

That the thanks of this meeting be given to William Hawes, Esq., for his able and courteous conduct in the chair. (Signed) EMANUEL COOPER.

Extracted from the minutes. (Signed) R. P. NICHOLS, Secretary.

IMPORTANT TO RAILWAY COMPANIES.

PATENT KAMPTULICON COMPANY, 18, CORNHILL.

This company having completed their new factory, are prepared to supply railway managers and contractors with an elastic material (perfectly non-absorbent) to place between the rails and sleepers, and between the frames and bodies of carriages, to prevent jarring, and, consequently, wear and tear. The elastic planking is strongly recommended, to be used for the backs and sides of carriages, to prevent splinters when accidents occur.

By order of the board, P. G. GREVILLE, Secretary.

PATENT IMPROVEMENTS IN CHRONOMETERS, WATCHES, AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1826, 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £5 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each.

DENT'S PATENT DIPLIEDOSCOPE, or meridian instrument, is now ready for delivery. Pamphlets containing a description and directions for its use 1*s.* each, but to customers gratis.

EUROPEAN LIFE INSURANCE & ANNUITY COMPANY.

ESTABLISHED JANUARY 1, 1819.

Empowered by special Act of Parliament, 7 and 8 Victoria, cap. xlviii.

OFFICES—No. 10, CHATHAM-PLACE, BLACKFRIARS, LONDON; and No. 53, DAME-STREET, DUBLIN.

JOHN ELLIOT DRINKWATER BETHUNE, Esq., Chairman.

Insurances may be effected daily on the ascending or descending scale—a limited number of annual payments, by even annual, half-yearly, or quarterly payments, or by payment of half the usual annual premium for five or seven years.

Parties effecting insurances on their lives for £500, or upwards, are privileged to attend and vote at the half-yearly general courts. CHARLES SAUNDERSON, Sec.

London:—Printed and Published, weekly, by HENRY ENGLISH, at the Office, No. 26, FLEET-STREET, in the city of London, where all Communications and Advertisements are requested to be forwarded—addressed to "the Editor"—post-paid. February 6, 1847.